Victorian Egyptology and the Making of a Colonial Field Science, 1850 – 1906

by

Meira Gold

Wolfson College

Department of History and Philosophy of Science

This thesis is submitted for the degree of Doctor of Philosophy

Date of Submission:

December 2019

Declaration

This thesis is the result of my own work and includes nothing which is the outcome of work done in collaboration except as declared in the Preface and specified in the text. It is not substantially the same as any that I have submitted, or, is being concurrently submitted for a degree or diploma or other qualification at the University of Cambridge or any other University or similar institution except as declared in the Preface and specified in the text. I further state that no substantial part of my thesis has already been submitted, or, is being concurrently submitted for any such degree, diploma or other qualification at the University of Cambridge or any other University or similar institution except as declared in the Preface and specified in the text. It does not exceed the prescribed word limit for the History and Philosophy of Science Degree Committee.

Abstract

Victorian Egyptology and the Making of a Colonial Field Science, 1850-1906

Meira Gold

This dissertation provides a new account of the origins of archaeological fieldwork in the Nile Delta. It considers how practitioners from diverse disciplinary backgrounds circulated knowledge about the built environment of pharaonic ruins: monuments, architecture, burials, and soil mounds that remained *in situ*. I trace the development of Egyptology from an activity that could be practiced long-distance through a network of informants to one that required first-hand field experience. By the turn of the twentieth century, archaeologists had demarcated the field site as a new space of scientific knowledge production, and designed field practices to claim intellectual and moral authority over Egypt. It is a project about the relationship between empire, locality, expertise, and invisible labour. These themes are examined through four case studies and divided into two parts, corresponding to the periods before and after the 1882 British Occupation of Egypt. The first part, "long-distance archaeology," explores a set of routine practices in mid-Victorian Egyptology, whereby scholars based in London relied on informants to communicate archaeological knowledge from abroad through field records. I focus on long-distance investigations of Heliopolis and Memphis in the 1850s and Tell el-Yahudiyeh in the 1870s. The second section introduces what I term the "shift to the field," an idea popularised by archaeologist W.M. Flinders Petrie, that Egyptological expertise could only be gained by sustained time spent in Egypt. I show that reliability and trust remained a consistent concern throughout this transitional period. The push for first-hand fieldwork was not simply about the revolutionary implementation of new methodologies, as previous histories have suggested, but primarily about becoming an expert witness to the credibility of excavations. The process of publicising Egyptian fieldwork in the periodical press and in books became a crucial mechanism for erasing the contributions of archaeological labourers and has shaped heroic mythologies of Egyptology that persist today.

Acknowledgements

This thesis has evolved considerably since it was conceived during my MA at the University of Toronto, due to the support of many. First and foremost, I wish to express my deepest gratitude to my incredible supervisor Jim Secord. His breadth of knowledge, constructive feedback, careful guidance, and encouragement has been constant. It is truly thanks to Jim that this dissertation came to fruition. I am fortunate that he has invested time and energy in my research. I would also like to pay special regards to my co-supervisor, Richard Staley, who always met with me on short notice, read drafts impressively fast, and helped develop my arguments in crucial ways. I am additionally grateful to my two examiners David Gange and Simon Schaffer. Their respective bodies of research have been influential on this thesis. They provided indispensable feedback and, for many years to come, my work will benefit from the rewarding discussion we shared during my Viva.

My sincerest appreciation goes to the HPS community who supported me over several tumultuous years in Cambridge and who are too many to name in their entirety. I thank the faculty members who read and discussed my work with me at various points, or provided critical advice when it was most needed, particularly Anna Alexandrova, Mary Brazleton, Helen Curry, Nick Hopwood, Nick Jardine, Lauren Kassell, and Anne Secord. I also want to recognise Tamara Hug in particular, as well as Toby Bryant, Jack Dixon, Agnieszka Lanucha, James Livesey, Louisa Russell, and David Thompson for their valuable administrative assistance. Many thanks to my fellow PhDs and office mates for their solidarity and crucial venting sessions, and several HPS research fellows and teaching associates for whose advice and friendship I will be forever grateful.

I am indebted to a wider network of historians who have welcomed me into their communities, invited me to workshops and seminars, and offered critical feedback and references. In particular, I thank William Carruthers, who inspired me to apply to HPS Cambridge and the EUI, as well as Margaret Maitland, Suzanne Marchand, Stephanie Moser, Daniel Potter, Kathleen Sheppard, Alice Stevenson, and Amara Thornton. I owe special gratitude to Christina Riggs whose enthusiastic support helped me land my first two postdoctoral positions. I also thank Stéphane Van Damme, Bernard Lightman, and Efram Sera-Shriar for their mentorship.

I am thankful for the helpful staff at numerous archives: Angela Grimshaw, Francesca Hillier, and Patricia Spencer at the British Museum; Brigitte Bolanda and Stephanie Boonstra at the Egypt Exploration Society; Anna Garnett, Alice Stevenson, and Alice Williams at the Petrie Museum; Karen Moran at the Royal Observatory Edinburgh; and Michelle Gait at the University of Aberdeen Special Collections. Many thanks as well to the archivists at the Ashmolean Museum, British Library, Cambridge University Library, Griffith Institute, National Archives, National Library of Scotland, and Royal Institute of British Architects.

I would like to acknowledge the Social Science and Humanities Research Council of Canada who generously financed my masters and all four years of my doctoral studies. International fees in the UK are expensive. I am especially grateful to the Department of History and Philosophy of Science Trust Fund for awarding me an annual maintenance grant and Wolfson College Cambridge for meeting my funding shortfall with multiple studentships and travel grants. Thank you as well to the staff at Wolfson and my tutor Kevin Greenbank for sorting out my financial situation on a bi-annual basis. I would lastly like to recognize the Max Weber Postdoctoral Programme staff at the European University Institute who supported me in the final months of my PhD. Alyson Price was also helpful in proofreading my introduction.

Portions of this thesis were written in Cambridge, UK, Florence, Italy, and Toronto, Canada. I have been fortunate for enduring friendships that have sustained me in all three places. Thank you to all my Cambridge friends, but especially my FND crew for late-night jams and generally taking my mind off work. Thank you also to my "Aswaby" housemates who enriched my experience—especially Leah, the most generous, loving, and supportive friend. My time in Cambridge would not have been the same without her. To my EUI family in Florence, Ari, Lachy, Lola, and Caitlin, thank you for being amazing friends when I was at my craziest. Thank you to my Toronto trio Alice, Jen, and Liana, for always being available, even when I was bad at skyping, and reminding me about life outside of academia. Special thanks to Jordan for introducing me to the history of science (!), for the best brainstorming sessions, sending me positive vibes from across the pond, and always believing in me more than I believe in myself.

My acknowledgements would not be complete without thanking my family for their unconditional love and support. I seriously do not know how I would have coped without the "world's okayest sisters" Elka and Reyla, throughout the PhD, but also, life in general. Thank you for making me laugh convulsively, spoiling me, and keeping me humble. I am especially appreciative that they spawned my adorable niblings Audrey and Alex who bring me so much joy and make me smile on the worst of days. Finally, thank you to my parents Marv and Melissa (aka Abba and Ima) who have always encouraged me to pursue my passions. Whenever they called to ask what I was working on, they were *genuinely* interested in the answer. They listened sympathetically on the bad days, celebrated my successes with me on the good days, and helped fly me home to Toronto for much needed breaks when I could not afford it myself. My mother inspired me to study archaeology as an undergraduate. In the final weeks before I submitted, she copy-edited and proofread my entire thesis with skill and, admirably, enthusiasm. Words cannot express my debt of gratitude.

Contents

Introduction

The Myths of Egyptological Fieldwork

On 15 July 2019, Egyptian novelist and political commentator Ahdaf Soueif resigned from the British Museum's board of trustees in response to several troubling policies, particularly the institution's refusal to participate in repatriation debates. Her complaints were succinct: "The British Museum, born and bred in empire and colonial practice, is coming under scrutiny. And yet it hardly speaks."[1] The issue is especially pertinent for the museum's collection of Egyptian antiquities, the largest in the world outside the Egyptian Museum in Cairo—most of which were acquired during the nineteenth century. This culture of silence around the legacies of colonial-era archaeology has also fundamentally shaped training in practice, collective identity, and especially histories of Egyptology. "Egyptology as a discipline," as Christina Riggs has repeatedly argued, "remains markedly disinterested in the circumstances of its knowledge production, despite—or because of—their imbrication in the operations of colonialism."[2] The colonial roots of Egyptology remain a pesky, uncomfortable truth for many. It invites follow-up questions about how the unequal power relations that shaped Egyptology's disciplinary growth in the nineteenth century still operate today. Not least of which, is archaeological fieldwork itself.

When did British Egyptologists begin doing fieldwork? The commonplace narrative maintains that "systematic" archaeological fieldwork started in the 1880s as a by-product of a number of confluences in 1882. This included the British Occupation of Egypt, the establishment of the Egypt Exploration Fund (EEF), and changes to the directorship of the French-controlled Egyptian Antiquities Service, which ended the decades-long monopoly over excavation permits held by French archaeologists. The oft-cited progress of Egyptian fieldwork during this period is regularly credited to the efforts of William Matthew Flinders Petrie**,** the celebrated "father of scientific archaeology."[3] Taken together, these developments amount to one of the most persistent myths in the histories of the discipline. Namely, that methodical fieldwork in Egypt was

[1] Ahdaf Soueif, 'On Resigning from the British Museum's Board of Trustees', *LRB Blog*, 15 July 2019, https://www.lrb.co.uk/blog/2019/july/on-resigning-from-the-british-museum-s-board-of-trustees.
[2] Christina Riggs, *Photographing Tutankhamun: Archaeology, Ancient Egypt, and the Archive* (Bloomsbury Visual Arts, London), 5; Christina Riggs, *Unwrapping Ancient Egypt* (London: Bloomsbury Academic, 2014); Christina Riggs, 'Discussing Knowledge in the Making', in *Histories of Egyptology: Interdisciplinary Measures*, ed. William Carruthers (New York and London: Routledge, 2015), 129–38.
[3] For instance, Patricia Spencer, *The Egypt Exploration Society : The Early Years* (London: Egypt Exploration Society, 2007); Rosalind Janssen, *The First Hundred Years : Egyptology at University College London* (London: UCL, 1992); Margaret S. Drower, *Flinders Petrie: A Life in Archaeology*, 2nd ed. (Madison, Wisc.: University of Wisconsin Press, 1995); T.G.H. James ed., *Excavating in Egypt: The Egypt Exploration Society, 1882-1982.* (London: British Museum Press, 1982).

implemented quickly, without precedent, and by only a handful of (mostly male) British archaeologists.

There are of course many truths to this traditional account. The era known as the veiled protectorate (1882 – 1914), when Egypt remained nominally under Ottoman rule but was largely administered by the British government, was a transformative period in the history of British Egyptology. By the turn of the twentieth century, British practitioners investigating ancient Egypt deliberately positioned archaeological fieldwork as scientific. However, a more nuanced and contextualised approach requires multiple, value-laden interpretations that are rarely taken seriously. Who was, or was not, an Egyptologist in the nineteenth century? What did it mean to do archaeology? What was considered "fieldwork"? What made fieldwork "systematic"? For that matter, what was the "field"? To what extent was being there important? This thesis takes up these questions to provide a new account of the origins of archaeological fieldwork in the Nile Delta, analysing the relationship between empire, locality, expertise, and invisible labour.

The "Field" in Egyptology

Archaeologists today regularly speak about the "field" and "site," or sometimes the "field site," interchangeably. These catch-all terms can denote many things. They can refer to visible antiquities, such as a temple, tomb, or monument; to an area that has undergone excavation in the past; to a place currently undergoing archaeological excavation; or, ambiguously, to any place that serves as a rite-of-passage for students entering into the discipline, somewhere to do "field training." Similarly, "fieldwork" refers to the practice of gathering objects and data; "fieldworkers" to the people doing manual labour; "field equipment" to the tools of excavation; and "field books" to the pages where these activities are recorded. While these terms are often taken for granted as relatively stable categories in Egyptology, they were adopted only as archaeology itself emerged as a discipline in the late nineteenth century. Antiquarian texts had a long history of referencing "sites" to indicate that a place was, or was thought to be, the location of ancient remains. The term *in situ,* "in its (original) place or position," was likewise introduced sometime in the eighteenth century. The "field," on the other hand, as a new space of archaeological experimentation, was a much later invention. It can be understood as part of the transition from antiquarianism to archaeology in the second half of the nineteenth century, most frequently associated with the adaption of typology and stratigraphy to archaeological analysis.[4] However, exactly what changed in terms of field practices is less clear.

[4] The transition from antiquarianism to archaeology is often associated with the development of prehistoric archaeology in Europe. It is often anachronistically regarded as a distinction between "amateur" and "professional"

To understand the emergence of field terminology in archaeology we can look at how this problem has been tackled in the history of science. A host of disciplines have given a special status to the field as a space for travelling, mapping, surveying, observing, collecting, measuring, recording, and sorting, and to the diverse practitioners who perform those activities.[5] Several expeditionary sciences that began to professionalise around the end of the nineteenth century, such as anthropology and geography, came to regard first-hand fieldwork as fundamental to their disciplines.[6] Bruce Hevly and Henrika Kuklick showed how the field also became an important space for building moral character, demonstrating endurance, and establishing the masculinised heroic rigour of "roughing it."[7] It was around this time that the term "field science" also came into use, often in opposition to other spaces of knowledge production such as the museum and laboratory. Unlike the laboratory, which has traditionally been viewed as the epitome of scientific rigour, the field is often regarded as an uncontrolled locale for collecting data, full of compromises and unable to produce the same "tidy solutions" that the lab or private study can accommodate.[8]

The lab/field dichotomy in histories of late nineteenth-century sciences, much like the centre/periphery dichotomy in related imperial sciences, can be problematic because it does not accommodate other important spaces of knowledge-production.[9] For instance, it can easily disregard the library, which continued to be an important repository for the collection of material objects, for reading and pedagogy. It was at exactly at the moment when Petrie began to stress "systematic" archaeological fieldwork that he also expressed his ambitions to make University

---

activities. See Philippa Levine, *The Amateur and the Professional: Antiquarians, Historians and Archaeologists in Victorian England, 1838-1886* (Cambridge: Cambridge University Press, 1986); Tim Murray, 'Rethinking Antiquarianism', *Bulletin of the History of Archaeology* 17, no. 2 (2007): 14–22; Alain Schnapp, *The Discovery of the Past: The Origins of Archaeology* (London: British Museum Press, 1999); Alain Schnapp, 'Between Antiquarians and Archaeologists—Continuities and Ruptures', *Antiquity* 76 (2002); Bruce G. Trigger, *A History of Archaeological Thought*, 2nd ed. (New York: Cambridge University Press, 2006), 121–210.

[5] Keith Richards, 'The Field', in *The SAGE Handbook of Geographical Knowledge*, ed. John A. Agnew and David N. Livingstone (London: Sage Publications Ltd., 2011), 53–63; Robert E. Kohler and Jeremy Vetter, 'The Field', in *A Companion to the History of Science*, ed. Bernard Lightman (Chichester: Wiley-Blackwell, 2016), 340–55.

[6] For armchair anthropology, see Henrika Kuklick, *The Savage within : The Social History of British Anthropology, 1885-1945* (Cambridge: Cambridge University Press, 1991); Henrika Kuklick, 'After Ishmael: The Fieldwork Tradition and Its Future', in *Anthropological Locations: Boundaries and Grounds of a Field Science*, ed. Akhil Gupta and James Ferguson (Berkeley: University of California Press, 1997), 47–65; Efram Sera-Shriar, *The Making of British Anthropology, 1813-1871* (London: Pickering & Chatto, 2013); Efram Sera-Shriar, 'What Is Armchair Anthropology? Observational Practices in 19th-Century British Human Sciences', *History of the Human Sciences* 27, no. 2 (2014): 26–40; George W. Stocking Jr., *Victorian Anthropology* (London: Collier Macmillan publishers, 1987); George W. Stocking Jr., 'The Ethnographer's Magic: Fieldwork in British Anthropology from Tylor to Malinowski', in *The Ethnographer's Magic and Other Essays in the History of Anthropology* (Wisconsin: Wisconsin University Press, 1992), 12–59.

[7] Bruce Hevly, 'The Heroic Science of Glacier Motion', *Osiris* 11 (1996): 66–86; Henrika Kuklick, 'Personal Equations: Reflections on the History of Fieldwork, with Special Reference to Sociocultural Anthropology', *Isis* 102, no. 1 (2011): 1–33.

[8] Henrika Kuklick and Robert E. Kohler, 'Introduction: Science in the Field', *Osiris* 11 (1996): 1.

[9] On geographies of knowledge, see David N. Livingstone, *Putting Science in Its Place : Geographies of Scientific Knowledge* (Chicago: University of Chicago Press, 2003); David N. Livingstone and Charles W. J. Withers, 'Thinking Geographically about Nineteenth-Century Science', in *Geographies of Nineteenth-Century Science*, ed. David N. Livingstone and Charles W. J. Withers (Chicago and London: University of Chicago Press, 2011), 1–19.

College London, and the recently bequeathed Edwards Library**,** a new "centre of information" for British Egyptology.[10] Alice Stevenson has also observed that, much like his predecessors, Petrie's top objective in excavations remained the "retrieval of artefacts" for comparison with existing collections. Even though "received wisdom concerning the development of the discipline of archaeology has tended to privilege fieldwork as its central advancement," Stevenson argues, "there were related sites of knowledge production that equally drove the formation of professional archaeology, prominent among which was the museum."[11] Geographies of knowledge are as significant in this thesis as they are in Stevenson's focus on object biographies in the British dispersal of Egyptian antiquities from the 1880s onwards. While there were certainly competing forms of expertise between those who identified as excavators, museum professionals, and philologists, amongst others, recent tendencies to position the field in opposition to the museum in histories of archaeology are in many ways unhelpful.[12] Archaeological field sites and museums both grew exponentially towards the end of the nineteenth century, in tandem, and many practitioners frequented both.[13] Moreover, the field as a space for fashioning archaeological authority was promoted in many places, including societies, museums, and other British institutions (see chapter 4). Lastly, it is still rather unclear exactly what "work" in the field entailed during Petrie's sensational excavations—something addressed in chapter 3.

This thesis focuses on the power of the field in Egyptology as part of the Victorian "geographical imagination" of the Orient;[14] as a colonial landscape to be claimed through text and image; as a microcosm of colonial control, surveillance, and disciplining of labourers; as a training site; as a quasi-scientific and domestic space of knowledge-production; and as a critical tool in constructing expert identities. While I do not focus extensively on the movement and politics of portable Egyptian antiquities themselves, Stevenson's methodological focus on what she calls the "object habit" is useful.[15] This refers to the variety of ways people engaged with Egyptian artefacts, and thus considers various communities' "attitudes to things, affecting what was collected, when and why." For Stevenson, practices concerning the excavation, collection, treatment, documentation, representation, presentation, and reception of Egyptian artefacts emerged "not

---

[10] "Professor Flinders Petrie on Egyptology," *The Times* (London), 16 January 1893, p. 8.
[11] Alice Stevenson, *Scattered Finds: Archaeology, Egyptology and Museums* (London: UCL Press, 2019), 32–33.
[12] For a similar argument placing the field and museum in opposition, see Amara Thornton, *Archaeologists in Print: Publishing for the People* (London: UCL Press, 2018), 6.
[13] Tony Bennett, *The Birth of the Museum: History, Theory, Politics* (London and New York: Routledge, 1995).
[14] Edward W. Said, *Orientalism* (New York: Vintage Books, 1979), 49–73; Edward W. Said, *Culture and Imperialism* (New York: Vintage Books, 1993), 3–14; Derek Gregory, 'Imaginative Geographies', *Progress in Human Geography* 19, no. 4 (1995): 447–85.
[15] Stevenson, *Scattered Finds*, 2–4; Alice Stevenson, Emma Libonati, and John Baines, 'Object Habits: Legacies of Fieldwork and the Museum', *Museum History Journal* 10, no. 2 (2017): 113–26; Alice Stevenson, Emma Libonati, and Alice Williams, '"A Selection of Minor Antiquities": A Multi-Sited View on Collections from Excavations in Egypt', *World Archaeology* 48, no. 2 (2016): 282–95; Alice Stevenson, 'Artefacts of Excavation: The British Collection and Distribution of Egyptian Finds to Museums, 1880-1915', *Journal of the History of Collections* 26, no. 1 (2014): 89–102.

only within the museum or out in the field, but also, significantly, between the two within the wider world." Similarly, I approach "fieldwork" in Egyptology as a very broad set of practices; some of these took shape during excavations in Egypt, such as observing, surveying, recording, sketching, corresponding, and delegating; but field "work" also refers to the mobilisation, popularisation, and scrutinization of the field and fieldworkers in various locations across Britain. From this perspective, fieldwork also illuminates the crucial roles of books, libraries, museums, societies, and classrooms in the invention of the field.

My approach necessarily utilises field records—another term I deliberately use liberally—as crucial in the management of knowledge throughout the nineteenth century. Papers inscribed during surveys and excavations in Egypt were what Martin Rudwick terms "proxy pictures," standing in place of the actual field, making it accessible to those who could not travel there personally.[16] Proxy field records were important throughout the Victorian period. The circulation of archaeological knowledge through material "documents of practice," such as field notebooks, correspondence, and instructional manuals, have been used to complicate some of the dichotomous geographies of science mentioned above.[17] More recently, Kapil Raj has argued that we need to understand knowledge-production as a process that is transformed in different settings; that "by circulation we understand not the 'dissemination,' 'transmission,' or 'communication' of ideas, but the processes of encounter, power, resistance, negotiation, and reconfiguration that occur in cross-cultural interaction."[18] Histories of Egyptological fieldwork present useful examples to make sense of these issues, as archaeological field sites emerged in the nineteenth century as a new type of "contact zone," shaped by the same asymmetrical power relations between coloniser and colonised that characterised imperial sciences more broadly.[19] Archaeology reinforced colonial power structures and modes of representation as Egypt was modernising.[20]

One consistent theme explored in the chapters of this thesis is the relationship between trust, distance, and expertise as it pertains to the field. Reliance on others' observation-claims has long been part of the knowledge-making process across the natural sciences. In an influential book, Steven Shapin showed that trust-relationships have always been essential to judging scientific matters "at a distance."[21] This was true both for sciences closer to the metropole and for

[16] Martin J. S. Rudwick, *Bursting the Limits of Time: The Reconstruction of Geohistory in the Age of Revolution* (Chicago: University of Chicago Press, 2005), 75–84.
[17] James A Secord, 'Knowledge in Transit', *Isis* 95, no. 4 (2004): 654–72.
[18] Kapil Raj, 'Beyond Postcolonialism….and Postpositivism: Circulation and the Global History of Science', *Isis* 104, no. 2 (2013): 343.
[19] Mary Louise Pratt, *Imperial Eyes: Travel Writing and Transculturation*, Second edition (New York and London: Routledge, 2008), 7–8.
[20] Timothy Mitchell, *Colonising Egypt* (Berkeley: University of California Press, 1991).
[21] Steven Shapin, *A Social History of Truth: Civility and Science in Seventeenth-Century England* (Chicago and London: University of Chicago Press, 1994), 245.

knowledge-production in far reaches of the empire, which involved travelling, reporting, and collecting, and collaboration between observers and theorists. Establishing trust-relationships was therefore essential for the credibility of geographical, natural historical, and antiquarian practices throughout the early modern period and remained crucial during mid-nineteenth-century expeditionary sciences, such as anthropology and geography.[22] The politics of trust has not been dealt with in Egyptology (with the exception of the *distrust* of Egyptian labourers, which I discuss in the next section).

Trust relationships were crucial for practicing archaeology at a distance between 1850 and 1880. Field-knowledge was communicated via correspondence networks, and practitioners in London relied on the first-hand observations, drawings, notes, and testimonies of others. The validity of the informants who communicated this information was scrutinised in society meetings, as in the case of Leonard Horner's defence of Joseph Hekekyan (chapter 1), and Thomas Hayter Lewis's promotion of James Grant (chapter 2). Long-distance archaeology reveals, therefore, not only what it meant to do fieldwork in the mid-nineteenth century, but, moreover, who could become a *second-hand* reliable witness. In chapters 3 and 4, I explore a new concern that emerged from the 1880s onwards; how to become a *first-hand* reliable witness in Egyptian fieldwork. Petrie and others promoted the need for hands-on field experience and training in archaeology. But for the new role of the "excavator," being on site was not about physically digging; it was about cutting out the middleman and becoming an expert who could personally attest to the credibility of excavations. The problem of trust did not disappear but remained a top priority as excavations grew in scale. It was essential that field Egyptologists trusted that everyone on the field site was fulfilling their role and implemented systems of surveillance to ensure maximum productivity. Egyptologists also had to convince British audiences of what they did in the field, a task that was crucial in an era when the Egypt Exploration Fund (EEF) and later ERA (Egyptian Research Account) relied on public subscriptions to finance excavations.

Changes in field terminology are indicative of how Victorian Egyptology developed as a specialised area of inquiry and how expertise was fashioned by and for different audiences. The term "Egyptology" was introduced in Britain in the 1850s and added to the Oxford English Dictionary in 1862, but most practitioners did not identify as Egyptologists until the end of the century. Many more referred to themselves as Egyptologers, chronologers, hieroglyphicists, hierologists, or antiquarians. They engaged with chronology, philology, ethnology, exegesis,

[22] For example, Charles Withers, 'Reporting, Mapping, Trusting: Making Geographical Knowledge in the Late Seventeenth Century', *Isis* 90, no. 3 (1999): 497–521; Noah Heringman, *Sciences of Antiquity: Romantic Antiquarianism, Natural History, and Knowledge Work* (Oxford: Oxford University Press, 2013); Sera-Shriar, 'What Is Armchair Anthropology?'; Lawrence Dritsas, 'Expeditionary Science: Conflicts of Method in Mid-Nineteenth-Century Geographical Discovery', in *Geographies of Nineteenth-Century Science*, ed. Charles W. J. Withers and David N. Livingstone (Chicago: University of Chicago Press, 2011), 255–78.

archaeology, architecture, museology, travel writing and sketching, artefact collection and analysis. Naturalists from geological, anthropological, and physiological backgrounds also looked to the country's specimens, artefacts, and people to support their research agendas. Some came together through learned societies in London like the Syro-Egyptian Society, Biblical Society of Archaeology, and Egypt Exploration Fund, while others preferred the Geological Society or Ethnological and Anthropological societies (later the Royal Anthropological Institute). All fashioned themselves as experts on ancient Egypt, and all wrote about ancient Egyptian "sites." Some spoke about the "field"; but the word had various meanings, and the rate at which it was adopted within Egyptology was not uniform.

This lack of agreement about what archaeology was can be gleaned in a brief comparison of successive editions of the pocket guidebook *Murray's Handbook for Travellers in Egypt*. The traveller and scholar John Gardiner Wilkinson, who authored the first 1847 edition, used "site" over one hundred times to refer to ancient villages and towns. The word "ruins" was used just as frequently and referred more specifically to decayed buildings and monuments. Wilkinson used "excavation" about ten times to mean interchangeably digging in the ground, clearing sand, or more commonly, surveying work, such as observing, recording, sketching, and collecting. The "field" referred only to a battlefield, agricultural farmland, or once, to a profession. Throughout the late nineteenth century, references to "sites" and "ruins" remained frequent, while "excavate" specifically referred to the clearance of dirt from ruins. The 1875 edition introduced new meanings for the field: the "Pyramid field of Egypt" described hundreds of small pyramids along the Nile; "field-glasses" were listed under the items to travel with; and claims that Egypt "offers a wide field to the naturalist," suggests a new use of the "field" as a site of scientific experimentation. The 1880 edition first introduced "archaeologist," with no explanation of who that might refer to. By the 1900 edition, "excavation" referred exclusively to digging vertically downwards, evidenced by the new phrase "depth of excavation." Likewise, "archaeologist" was more prevalent, and the "field," though used sparingly, was almost exclusively associated with excavation. The public perception of such Egyptological terminology was therefore varied.

Specialist Egyptological books from the turn of the twentieth century, on the other hand, contain more strategic uses of field terminology. The best example is Petrie's *Methods and Aims in Archaeology* (1904), often considered the first instructional handbook for excavation. Petrie wrote extensively about the "field" (nine times), "fieldwork" (seven times), and about the importance of experiencing the field first-hand. Moreover, Petrie used the terms "archaeologist" and "Egyptologist" sparingly but adopted the more novel idea of an "excavator" (seventeen times), a male Egyptologist trained specifically in fieldwork, rather than museum or philological work. This points to the many different attitudes at the turn of the twentieth century about what archaeology

was, who practiced it, how they practiced it, why they practiced it, and who read about it. It also sheds light on how Egyptologists adopted new terminology and techniques from the natural sciences. They introduced them into public consciousness during an unprecedented period of increasing disciplinary specialisation, mass readerships, concerns about biblical historicity and human chronologies, and colonial expansion.

New terminology is certainly an indicator of a changing discipline, but it is equally important to understand how pre-existing terms, ideas, and objects took on new meanings. Elliot Colla has also considered questions of locality, practice, and objects and their representations in colonial and nationalist Egyptologies. Colla shows that the European invention of the Pharaonic artefact and its transformation from a thing of curiosity to an object of scholarly study—a process he terms "artifaction"—was a crucial invention of the early nineteenth century, used to claim intellectual authority over Egypt.[23] Later in the century, there remained little consensus about the statuses of Egyptian artefacts. Subscribers to British fieldwork invariably requested antiquities for their artistic, domestic, spiritual, biblical, and/or educational values. Porous disciplinary boundaries, both within and outside museum settings, led to disagreements over their taxonomic classifications as objects of historical art, ethnology, or archaeology.[24] Such ambiguity is evident from the treatment of objects from Horner and Hekekyan's geo-archaeological excavations, donated to the British Museum's Department of Oriental Antiquities in 1861.[25] Similarly, the field was not simply a new term or a static or stable category during this period. Egyptologists advanced an idea of the field site to claim unique scientific authority over distant territories, as well as the objects and people who populated them.

It is important to emphasize that the field, far from being one space, was actually many contested spaces that meant something entirely different to all who engaged with them. For Egyptian *bedouin*, it was where they lived and let their flocks graze. For many *fellahin* (peasants), ancient mounds were a source of nitrous-rich fertiliser and antiquities to be sold in nearby villages to European tourists. For British tourists and archaeologists, the field could be an escape from Victorian etiquette and domesticity. For antiquarians, the field was a place to be learned at a distance, through collectors, second-hand reports, and maps. For continental archaeologists like

[23] Elliott Colla, *Conflicted Antiquities: Egyptology, Egyptomania, Egyptian Modernity* (Durham, NC: Duke University Press, 2007), 16-17,19-20, 24–71.
[24] Stevenson, *Scattered Finds*, 44–55.
[25] The Keeper, Samuel Birch, sketched, catalogued and stored fifty-eight antiquities and twenty-six animal remains. Ninety-five soil samples were catalogued in Birch's acquisitions' registry, but never catalogued, and sent to storage (where they remain today). Meanwhile, fifteen huge, detailed, topographical maps and plans drawn by Hekekyan, with descriptive notes in both English and Arabic, were never given registration numbers. The maps were moved to the ethnological department in 1885, transferred to Prints and Drawings sometime before 1940, and in 1948, several keepers considered their permanent "disposal." Eventually they were sent to the Egypt and Sudan archives, where only three out of the fifteen have been conserved and are accessible. Department of Oriental Antiquities acquisitions registry, 24 April 1861, British Museum; Patricia Spencer, email message to author, 10 July 2018.

Auguste Mariette and Edouard Naville, and long-distance Egyptologists Samuel Birch and E.A. Wallis Budge, the field was a source for museum-worthy treasures. For EEF popularisers, the field was something in need of urgent saving and preservation. For Flinders Petrie and his students at the British School of Archaeology in Egypt, the field was a site of scientific training, disciplining minds and bodies. The field was also a target of transnational disputes concerning archaeological *firmans* (permits), antiquities laws, labour policies, and Egyptian national heritage. This thesis examines closely the people, places, and practices that shaped the Egyptian field site in the nineteenth and early twentieth centuries.

Heroic Egyptology and Invisible Labour

One problem that emerges from focusing on the field is the figure of the heroic archaeologist. C.W.Ceram's classic *Gods, Graves, and Scholars* (1952) boldly claimed in the opening to the chapter on Petrie, "It is astonishing how many archaeologists were prodigies."[26] Over twenty years ago, Neil Silberman suggested the "Archaeologist as Hero" is perhaps the most dominant trope in the public imagination of the discipline, yet it is rarely critiqued by historians of archaeology.

> As an adventure story with a moral, it legitimizes the exploration of hidden places and sanctions the removal of long-hidden antiquities. As a genre of travel writing, it often emphasizes the local population's ignorance or hostility to the archaeologist's endeavour and places the scholar's persistence in a heroic lights…From often humble beginnings, and often with a childhood fascination for antiquity, the archaeologist leaves familiar surroundings to undergo exacting professional training under a series of mentors and when armed, at last, with the intellectual weapons of the profession, sets off for unfamiliar or exotic realms, braving opposition and danger to solve an ancient mystery.[27]

Heroic narratives have shaped the public understanding of archaeology, infiltrating mass media, novels, movies, and more. However, what Silberman does not ask, and this I am interested in, is how has the heroic narrative shaped archaeological practices and histories of the discipline?

Histories of Egyptology are still entangled in such celebratory accounts of colonial-era archaeologists. Few have been revered as much as Petrie, both in their own time and subsequently. Petrie's own students, and many of his contemporaries, claimed he made archaeology into an "exact science."[28] Histories of Egyptology, written by Egyptologists, have since elevated Petrie to

---

[26] C. W. Ceram, *Gods, Graves, and Scholars : The Story of Archaeology* (London: Victor Gollancz Ltd., 1952), 137.
[27] Neil Asher Silberman, 'Promised Lands and Chosen People: The Politics and Poetics of Archaeological Narrative', in *Nationalism, Politics, and the Practice of Archaeology*, ed. Philip L. Kohl and Clare Fawcett (Cambridge: Cambridge University Press, 1995), 251–53.
[28] For example, 'Recent Lights on Ancient Egypt', *Quarterly Review*, July 1904, 57; 'A Great Egyptologist. Tribute to Sir Flinders Petrie.', *The Times*, 8 July 1925; C.H. Bach et al., 'Ancient Egypt: Sir Flinders Petrie's Work', *The Times*, 27 May 1931; W.B. Emery, 'The Founder of Egyptian Archaeology: Genius of Flinders Petrie', *The Times*, 8 June 1953.

founding father in constructions of their own disciplinary identities. Petrie is treated as revolutionary because he standardised the use of techniques that were later deemed useful, such as seriation, pottery analysis, photography, and field-recording. Yet, all of these practices had precedents in the natural sciences, and, moreover, they were not obviously superior to other ways of doing archaeology at the time.

Historians of science have shown that heroising accounts are often ahistorical, but they are nonetheless crucial foundations for the legitimisation of new disciplines. Simon Schaffer has shown that scientific "discoveries" have rarely been single events resulting from the labour of one individual, but a moment retrospectively attributed to that person by members of their scientific community.[29] Mary Joe Nye has argued that identifying "genealogy and family descent, including historical mythology of heroic origins and heroic episodes" is fundamental to disciple-building.[30] Recognising the heroic mythology that surrounds Petrie is crucial to analysing this transformative period in archaeology from a more critical perspective. My goal is not to remove Petrie from his pedestal but, rather, to understand how he got there in the first place.

Heroic scientists are rarely treated as "ordinary people," but as those who triumphed over many adversaries in search of disinterested knowledge. Such is the well-known example of Antoine Lavoisier's success over George Stahl in debates over phlogiston theory at the end of the eighteenth century.[31] According to standard accounts, Petrie had an almost equal number of enemies as supporters. He feuded with several of the French directors of the Egyptian Antiquities Service, such as Eugène Grébaut and Jacques de Morgan, with Egyptologists at the British Museum, such as Wallis Budge and Peter le Page Renouf, and with one of the first secreteries of the Egypt Exploration Fund, Reginald Stuart Poole.

However, it is Petrie's rivalry with Swiss philologist-epigrapher-archaeologist Edouard Naville that is most discussed in the development of field practices. The two lead archaeologists for the EEF attacked each others' priorities concerning their retrieval of artefacts, particularly in light of new antiquities laws and delicate diplomatic relations between the EEF and the French directors of the Egyptian Antiquities Service. Petrie criticised Naville's methods of excavation as a "system of plunder," and Naville rebutted that he disgreed with Petrie's "point of view as to the great desirability of carrying away great many small things, say several thousands in order to enrich a score of museums."[32] For years, Petrie continued to argue that Naville's destruction of sites in pursuit of monumental inscriptions, and his lack of recording, was an "obsolete and wasteful

[29] Simon Schaffer, 'Scientific Discoveries and the End of Natural Philosophy', *Social Studies of Science* 16 (1986): 387–420.
[30] Mary Jo Nye, *From Chemical Philosophy to Theoretical Chemistry: Dynamics of Matter and Dynamics of Disciplines, 1800-1950* (Berkeley: University of California Press, 1993), 19–24.
[31] Ibid., 22.
[32] Naville to Edwards, 14 February 1887, COR.5.e.8, Egypt Exploration Society.

system" that could not be continued.[33] David Gange has argued that histories of archaeology have anachronistically favoured Petrie, the "good" preservationist and record-keeper, over Naville, the "bad" excavator and plunderer. In actuality, Naville and Petrie's competition meant they both excavated quickly and were equally destructive.[34] Gange's analysis shows us why it is necessary to look at Petrie's fieldwork in context and to understand him as one archaeologist, of many, who was attempting to carve a niche for himself in an emerging discipline.

Dispelling myths of archaeological heroism are also crucial because they are inextricable from the problem of invisible labour. Historians of sciences have shown that invisible technicians have operated almost everywhere in scientific practice. This scholarship points to a long history of attempts to distinguish between manual and intellectual work in order to establish scientific authority.[35] In all periods of fieldwork that I describe in this thesis, this division of labour was consistently sought. But what constituted knowledgeability in Egyptology? Shifting the focus away from lead investigators towards others members of archaeological networks, and especially the many people who populated field sites—including Bedouin, farmers, labourers, foremen, informants, collectors, field students, family, tourists, etc.—gives us a new perspective about who was actually contributing to the production of field-knowledge. Focusing on those who have worked "behind the scenes" also highlights the value-judgements that historians and archaeologists alike have made about what kinds of practices count as archaeology. What is considered "important" archaeological work and who receives recognition?

British archaeologists legitimised their privileged statuses in the nineteenth century in part by promoting the racially infused rhetoric that Egyptians did not care about the Egyptian past. Late Victorian Egyptologists marketed archaeology as altruistic "preservation" work, a theme that was dominant within the British imperial project.[36] They claimed they were saving Egypt's antiquities in the name of Western Science. It was not a far cry from the "salvage ethnography" promoted by James Cowles Prichard a few decades before. Some historians have corrected this myth by utilising Arabic-language sources to show how Egyptian intellectuals and reformers studied, taught, and wrote about ancient Egypt for Egyptian audiences during the nineteenth century. Egyptian Egyptology emerged in the late nineteenth century and came to prominence during the interwar period as Egypt sought independence from colonial rule. Egyptology was part of a national agenda

[33] Petrie to Maunde Thompson, 2 January 1893, COR.001.c.02, Egypt Exploration Society.
[34] David Gange, 'The Ruins of Preservation: Conserving Ancient Egypt 1880-1914', *Past and Present* 226 (2015): 89.
[35] Steven Shapin, 'The Invisible Technician', *American Scientist* 77, no. 6 (1989): 554–63; Jenny Bangham and Judith Kaplan, eds., *Invisibility and Labour in the Human Sciences* (Berlin: Max Planck Institute for the History of Science, 2016); Iwan Rhys Morus, 'Invisible Technicians, Instrument-Makers and Artisans', in *A Companion to the History of Science*, ed. Bernard Lightman (Chichester, West Sussex: Wiley Blackwell, 2016), 97–110.
[36] Gange, 'The Ruins of Preservation'; Astrid Swenson and Peter Mandler, eds., *From Plunder to Preservation: Britain and the Heritage of Empire, c. 1800-1940* (Oxford: Published for the British Academy by Oxford University Press, 2013).

to reclaim ancient Egypt and extend Egyptian history to the pre-Islamic past.[37] This thesis is also concerned with the balance of imperial and anti-colonist Egyptologies, but from a different perspective. By focusing on the field, I explore the relationship between two interwoven projects, which are often treated separately in the existing literature: the management of fieldwork in Egypt and the reception of Egyptology in Britain.

With few exceptions, every Egyptological "discovery" from this period was credited to the white, male archaeologists who led excavations and penned the excavation reports. However, Egyptologists routinely relied on the supposedly non-archaeological work of Egyptian *fellahin*. Whether looking for antiquities, or digging up sites for *sebakh* (fertiliser), local Egyptians were often aware of the existence of sites before they alerted foreign archaeologists to their existence.[38] As I discuss in chapter 4, Egyptologists strategically criticized these illicit activities in order to market their rescue work as scientific. *Fellahin* activities were nonetheless the basis for most archaeological hypotheses, particularly knowing where to dig. This reliance was occasionally made explicit, as in the case of archaeologist David C. Hogarth's public lecture at the Royal Institution in 1905.

> …success depended not on luck…but upon intelligence and sound reasoning applied to existing documents and local observation. The priority of discovery ought in many cases to be credited not to the scientist whose name might have become associated with it, but to some peasant, local farmer, or even ox, that accidentally revealed some buried treasure. In Egypt, the first discoverers were generally the *fellaheen* who had dug down below…The excavator should first ask the *fellaheen* and the local dealers in antiquities before commencing to dig if he desires success.[39]

Egyptologists routinely relied on the activities of the *sebakhin* and antiquities dealers, but only rarely acknowledged how they benefitted from this practice. Hogarth's subsequent section in his lecture, which described Egyptians as secretive and conniving, was far more typical. This points to the tensions Egyptologists faced between relying on, yet distrusting, Egyptian labour and knowledge.

Most British practitioners during the nineteenth century identified the Egyptian peasantry collectively. When Egyptian fieldworkers were mentioned, their input was reduced to the level of passive assistance, which has minimised Egyptian contributions to knowledge production, and does not reflect the class politics and modernising context in which archaeological labour diversified. The *corvée* (forced) labour industry established under the Ottoman Khedive Muhammad

---

[37] Donald M. Reid, 'Indigenous Egyptology: The Decolonization of a Profession?', *Journal of the American Oriental Society* 105, no. 2 (1985): 233–46; Donald M. Reid, *Whose Pharaohs? Archaeology, Museums, and Egyptian National Identity from Napoleon to World War I* (Berkeley: University of California Press, 2002); Donald M. Reid, *Contesting Antiquity in Egypt: Archaeologies, Museums, and the Struggle for Identities from World War I o Nasser* (Cairo: AUC Press, 2015); Colla, *Conflicted Antiquities*.

[38] For example, the "discovery" of the cache of Egyptian mummies at Deir el-Bahari in 1881, or the Amarna tablets in 1893. Both were found by local Egyptians first, but only reported widely in the media after western archaeologists wrote about them.

[39] 'Methods of Exploration', *The Observer*, 5 March 1905.

Ali Pasha enlisted the Egyptian peasantry to construct railways, dams, canals, buildings, grow the long-staple cotton cash drops that became Egypt's primary export, and dig in foreign-led excavations. Large-scale archaeological projects required a hierarchical system in which Ottoman-appointed governors commissioned village *shuyukh* (singular *shaykh*) to enlist local excavators, including men, women and children. Wendy Doyon shows that from mid-century, the workforce included several experienced foremen, or *ru'asa* (singular *ra'is*), representing "a new class of go-betweens with a kind of diplomatic status." The *ra'is*-system diversified by the end of the century into a fully-fledged archaeological industry made up of both skilled and unskilled workers. A particular group of *ru'asa* from the village of Qift, known as Quftis, were initially trained by Petrie but developed into a workforce whose expertise challenged many of their western counterparts. They knew how to observe, where to dig, and it was largely through their efforts that archaeological digs were systematised during the late nineteenth century.[40]

The Petries were among the first foreign archaeologists to record the names, ages, families, and villages of the Quftis and labourers. Stephen Quirke's study of Petrie's archives have therefore provided a fuller picture of the politics behind archaeological divisions of labour.[41] Petrie's archives can be used for more than recovery purposes. They are evidence of the process of field-recording itself and can tell us about the colonial anxieties that shaped their contents.[42] Building on Quirke and Doyon, chapter 3 discusses how Egyptian labour was embedded in a larger system of delegation, surveillance, and trust, all of which propped up Petrie as the "master" of the site (to use his own terminology). Systematic distrust was the primary reason the names of fieldworkers were recorded. This theme permeates the chapter on "labourers" in his handbook. He argued it was essential for a field archaeologist to select "honest" workers who could be left to their own devices, but who would not take advantage. The observations and knowledge of experienced workers "should always be listened to, and will often determine matters," he wrote, adding the significant qualification: "the freshman from England is their inferior in everything except recording."[43] Pencil-work itself was therefore a privileged practice. It shaped social relations on site and has since reinforced binary distinctions between supposedly "intellectual" and "manual" labour. Despite the special acknowledgement Petrie gave to his trusted foreman Ali Suefi, who routinely directed most fieldwork, Suefi was not asked to put pencil to paper. Suefi's "training" was different from the

[40] Wendy Doyon, 'On Archaeological Labor in Modern Egypt', in *Histories of Egyptology: Interdisciplinary Measures*, ed. William Carruthers (London and New York: Routledge, 2015), 145; Wendy Doyon, 'Archaeology through the Eyes of Egyptians', in *Unmasking Ideology in Imperial and Colonial Archaeology: Vocabulary, Symbols, and Legacy*, ed. Bonnie Effros and Guolong Lai (Los Angeles: The Cotsen Institute of Archaeology Press, 2018), 173–200.
[41] Stephen Quirke, *Hidden Hands: Egyptian Workforces in Petrie Excavation Archives, 1880–1924,* Duckworth Egyptology Series (London: Duckworth, 2010).
[42] On understanding colonial archives as "process" not "things," see Ann Laura Stoler, *Along the Archival Grain: Thinking through Colonial Ontologies* (Princeton: Princeton University Press, 2009).
[43] W.M.Flinders Petrie, *Methods & Aims in Archaeology* (London, England: Macmillan & Co. Ltd., 1904), 22.

"training" Petrie gave to his British students. Quftis did not systematically keep Arabic field notebooks until 1911, while working under American archaeologist George Reisner, someone who was far more sympathetic to the Egyptian national agenda.[44] It is worth noting that just as Egyptians were allowed this access, the status of recording itself was devalued. It was still mandatory, but field-recording increasingly became the domain of field students and fieldworkers, and as before, lead archaeologists had the task of supervision and analysis.

As I argue in the second half of this thesis, the publicity process helped mask the contributions of invisible labourers. Images of fieldworkers, or Egyptians more generally, were an interesting facet of this process. Visualisation made labourers technically more visible but reinforced their anonymity and inferior status. The British colonial agenda in Egypt sought to fix Egyptian racial inferiority according to universal hierarchies of race. "Native" Egyptians were treated as passive objects of observation, taxonomy, and classification.[45] In particular, *fellahin* who participated in excavations were regarded as "living artefacts" and often compared with the antiquities they helped to expose.[46] As we will see, it was not uncommon for labourers to be shown simply for scale or context, removed and inserted into subsequent versions of the same image to suit the archaeologists' needs. Images of fieldwork were key in convincing audiences in Britain about the quality of work performed abroad; particularly that labourers were passively following instructions. Thus, Joseph Hekekyan sent Leonard Horner hundreds of sketches of fieldwork showing himself supervising identity-less foremen, students, and labourers (**Figure 0.1**). As first-hand fieldwork became increasingly important for legitimising archaeology as a scientific practice in the late nineteenth century, and as the scale of excavations increased, it became even more necessary to document all the people that were part of the team, even though only few received credit. Field photography took up this ostensibly "objective" role and replaced hand sketches as the primary visual means through which labourers were rendered simultaneously visible yet invisible.[47] As Christina Riggs argues in her discussions of the clearance of Tutankhamun's tomb in the 1920s, photographing the Egyptian workforce was crucial to the spectacle of fieldwork:

[44] Doyon, 'Archaeology through the Eyes of Egyptians'; Reid, 'Indigenous Egyptology'; Quirke, *Hidden Hands*, 147–52.
[45] Omnia S. El Shakry, *The Great Social Laboratory: Subjects of Knowledge in Colonial and Postcolonial Egypt* (Stanford: Stanford University Press, 2007), 5–6.
[46] Martin Willis, *Vision, Science and Literature, 1870-1920 : Ocular Horizons* (London: Pickering & Chatto, 2011), 132.
[47] Nick Shepherd, "'When the Hand That Holds the Trowel Is Black...": Disciplinary Practices in Self-Representation and the Issue of "native" Labour in Archaeology', *Journal of Social Archaeology* 3, no. 3 (2003): 334–52; Christina Riggs, 'Shouldering the Past: Photography, Archaeology, and Collective Effort at the Tomb of Tutankhamun', *History of Science* 55, no. 3 (2016): 336–63; Riggs, *Photographing Tutankhamun: Archaeology, Ancient Egypt, and the Archive.*

Figure 0.1. Hekekyan's sketch of fieldwork at Heliopolis, c. 1851, showing himself giving directions to labourers. Hekekyan Papers, 37453.99-100, British Library.

"As long as a foreign archaeologist was in charge, indigenous labourers could be seen (if not said) to contribute in some way to the collective effort that was the science of archaeology."[48] The process of making Egyptians visible in sketches and photographs made the British archaeologists in charge appear to be doing the truly important work.

The invisible role of women in archaeological fieldwork is the subject of a larger body of literature that I will not go into in a great deal in this dissertation. But it is important to emphasise that the same process that has erased Egyptian contributions to archaeological knowledge production has systematically under-represented, or completely excluded, women's labour. Male-centred accounts of pre-WWI archaeological fieldwork have perpetuated a traditional view of what is considered "important" work, so that women "who did not publish, did not have important positions, and did not have permanent employment often remain invisible."[49] The field itself was

[48] Riggs, 'Shouldering the Past: Photography, Archaeology, and Collective Effort at the Tomb of Tutankhamun', 350.

[49] Margarita Díaz-Andreu and Marie Louise Stig Sørensen, 'Excavating Women: Towards an Engendered History of Archaeology', in *Excavating Women: A History of Women in European Archaeology*, ed. Margarita Díaz-Andreu and Marie Louise Stig Sørensen (London and New York: Routledge, 1998), 2; Cynthia Irwin-Williams, 'Women in the Field: The Role of Women in Archaeology before 1960', in *Women of Science: Righting the Record*, ed. Gabriele Kass-Simon, Patricia Farnes, and Deborah Nash (Bloomington: Indiana University Press, 1993), 1–41.

branded an essentially masculine space Unmarried women were often discouraged from participating in excavation because they might be distracting. One of the few appropriate avenues for women to enter into fieldwork was by accompanying their well-known husbands, as did Sophia Schliemann, Hilda Petrie, Tess Wheeler, and many more. These women are rarely recognised as archaeologists in histories of the discipline (even though they contributed to archaeological work). They are, moreover, presented as lacking any agency and minimised to mere supporting roles, even though historians of science have long recognised the importance of marital collaboration in the sciences, particularly during the nineteenth and early twentieth centuries.[50] Current knowledge about women's participation in Egyptian fieldwork in this period is often limited to archaeological wives, or "pioneering" archaeologists such as Margaret Murray, all of whom are almost always associated with a well-known male archaeologist.[51]

The scope of this dissertation does not allow me to examine this issue in depth. However, by reconfiguring traditional definitions of the field and fieldwork in archaeology, and regarding fieldwork as a collective process, we can include many women who actively contributed to archaeological knowledge. While we tend to think of Egyptian "labourers" as exclusively young men, a number were young girls, and female family members were also present to provide food and water. Similarly, women's travel narratives from Egypt are rarely regarded as actively contributing to the production of Egyptological knowledge—despite a large body of literature emphasizing the significance of travel accounts in the development of nineteenth-century science.[52] The inclusion of women in Petrie's excavations from the 1890s onwards contributed to social and spatial relations on field sites. As I explore in chapter 3, the domestication of archaeology, as women participated in fieldwork and, together with male archaeologists, spent months away from Britain, complicates contemporary popularisations of the "field" as a purely scientific space.

Women were particularly indispensable in the popularisation of Egyptology in the late nineteenth and early twentieth centuries but are often discussed as amateur participants. Amelia Edwards and Hilda Petrie were two well-known examples that I highlight in chapter 4. They invited non-specialist female participation to promote the Egypt Exploration Fund (EEF) and British School of Archaeology in Egypt (BSAE). The mid-nineteenth-century "communications

[50] Helena M. Pycior, Nancy G. Slack, and Pnina G. Abir-Am, 'Introduction', in *Creative Couples in the Sciences*, ed. Helena M. Pycior, Nancy G. Slack, and Pnina G. Abir-Am (New Jersey: Rutgers University Press, 1996).
[51] Kathleen L. Sheppard, *The Life of Margaret Alice Murray: A Woman's Work in Archaeology* (Lanham: Lexington Books, 2013).
[52] Billie Melman, *Women's Orients: English Women and the Middle East, 1718-1918: Sexuality, Religion and Work* (Basingstoke: Macmillan, 1995); Derek Gregory, 'Scripting Egypt: Orientalism and the Cultures of Travel', in *Writes of Passage: Reading Travel Writing*, ed. James S. Duncan and Derek Gregory (London: Routledge, 1999), 114–50; Lila Marz Harper, *Solitary Travelers: Nineteenth-Century Women's Travel Narratives and the Scientific Vocation* (London: Associated University PResses, 2001); Maria H. Frawley, *A Wider Range: Travel Writing by Women in Victorian England* (London: Associated University Presses, 1994).

revolution" in steam-powered technologies, higher literacy rates, secular education, and more, created a mass British readership.[53] This fostered a new marketplace of affordable literature for non-specialists and a boom in "popular science" lectures, books, and periodicals.[54] For the first time, writers published inexpensive works about Egyptian fieldwork for non-specialist British audiences. David Gange has shown that Egyptology played a significant role in British religious consciousness, identity, and culture. His book is especially important because of the attention he gives to the variety of spaces, outside of purely academic contexts, in which Egyptological ideas were circulated and interpreted. He further shows that Egyptology can be a useful pathway for understanding the links between different forms of learning and Victorian culture and between experts and their public audiences. The popularisation of Egyptology in Britain was an essential component of the invention of the field, an idea that sought legitimisation amongst audiences in Britain. It is therefore important to understand the reception of fieldwork as practice and part of the knowledge-making process. Fieldwork as a focus is one way of understanding how popularization gave rise to new, competing forms of expertise.

Repositioning Egyptology as a Field Science

One goal of this project is to bridge the gap between histories of Egyptology and science, two disciplines that, until recently, have had little interaction. Histories of Egyptology tend to ignore their practitioners' engagements with other scholarly inquiries such as natural history.[55] With few exceptions, Egypt's place in histories of Victorian science has been neglected.[56] Archaeology has, overall, been largely overlooked by historians of science. Margarita Díaz-Andreu suggests this is due to the discipline's lack of homogeneity, as approaches towards archaeology differ amongst

[53] James A. Secord, *Victorian Sensation: The Extraordinary Publication, Reception, and Secret Authorship of Vestiges of the Natural History of Creation* (Chicago: University of Chicago Press, 2000), 24–34; Joanne Shattock, 'Introduction', in *Journalism and the Periodical Press in Nineteenth-Century Britain*, ed. Joanne Shattock (Cambridge: Cambridge University Press, 2017), 1–13.

[54] Geoffrey Cantor et al., *Science in the Nineteenth-Century Periodical: Reading the Magazine of Nature* (Cambridge: Cambridge University Press, 2004); Geoffrey Cantor et al., eds., *Culture and Science in the Nineteenth-Century Media* (Aldershot: Ashgate, 2004); Aileen Fyfe, *Science and Salvation: Evangelical Popular Science Publishing in Victorian Britain* (Chicago: University of Chicago Press, 2004); Geoffrey Cantor and Sally Shuttleworth, eds., *Science Serialized: Representations of the Sciences in Nineteenth-Century Periodicals* (Cambridge, Mass.: MIT Press, 2004); Aileen Fyfe and Bernard Lightman, eds., *Science in the Marketplace: Nineteenth-Century Sites and Experiences* (Chicago: University of Chicago Press, 2007); Bernard Lightman, *Victorian Popularizers of Science: Designing Nature for New Audiences* (Chicago: University of Chicago Press, 2007); Sally Shuttleworth and Berris Charnley, 'Science Periodicals in the Nineteenth and Twenty-First Centuries', *Notes and Records of the Royal Society* 70 (2016): 297–304.

[55] David Gange, 'Beyond Disciplinary Histories of Egyptology', in *Histories of Egyptology: Interdisciplinary Measures*, ed. William Carruthers (London and New York: Routledge, 2015), 64–78.

[56] Exceptions include Simon Schaffer, 'Metrology, Metrication, and Victorian Values', in *Victorian Science in Context*, ed. Bernard Lightman (Chicago: University of Chicago Press, 1997), 438–74; Simon Schaffer, 'Oriental Metrology and the Politics of Antiquity in Nineteenth-Century Survey Sciences', *Science in Context* 30, no. 2 (2017): 173–212.

countries and between scholars from diverse academic backgrounds.[57] This cannot fully account for this apparent disregard because historians of science are increasingly interested in local practices and sites of knowledge production. The problem has likely emerged from somewhat anachronistic definitions of science, particularly concerning the nineteenth century when disciplinary boundaries were permeable and constantly changing.

Efram Sera-Shriar has shown that Victorian studies of the deep human past were especially multidisciplinary, approached from a plurality of backgrounds, including archaeology, geology, palaeontology, natural history, anthropology, and physiology.[58] Yet even this scholarship has generally focused on prehistoric archaeology. Histories of Near Eastern and Classical archaeologies (including Egyptology), which relied equally on excavated materials from the ground and historical texts, remain scant. Historians of archaeology, such as Mirjam Brusius, William Carruthers, Stéphane Van Damme, and myself, have argued that disregard of this sort for the antique sciences in the history of science is unjustified, as there is no legitimate reason to separate the history of "artefacts" from the history of "science."[59] In the nineteenth century especially, artificial objects, natural specimens, and human bodies were observed, recorded, collected, stored, and displayed alongside one another.

I adopt this multidisciplinary point of view to discuss the relationship between expertise, identity, locality and practice in Egyptology. The question of *who* could know ancient Egypt during the Victorian era relied partly on shifting, often ambivalent, attitudes towards field experience and trustworthiness. Little consensus existed between disciplinary communities on whether "being there" was necessary for theoreticians. During the 1820s and 1830s, many achieved credibility through their travels, explorations, and diplomatic activities in Egypt, such as John Gardiner Wilkinson, Robert Hay, Edward William Lane, Joseph Bonomi, and the consul-general and antiquities collector Henry Salt, to name but a few well-known examples. Yet, throughout this earlier period and into the periods discussed in this thesis, some of the most authoritative writers chose never to go to Egypt, instead utilizing other forms of expertise, such as philology, biblical chronology, architecture, and geology. This latter group relied on the observations of trusted

---

[57] Margarita Díaz-Andreu García, *A World History of Nineteenth-Century Archaeology: Nationalism, Colonialism, and the Past* (Oxford: Oxford University Press, 2007), 2.

[58] Efram Sera-Shriar, 'Human History and Deep Time in Nineteenth-Century British Sciences: An Introduction', *Studies in History and Philosophy of Biological and Biomedical Sciences* 51 (2015): 19–22; Efram Sera-Shriar, 'Introduction: From the Beginning', in *Historicizing Humans: Deep Time, Evolution, and Race in Nineteenth Century British Sciences*, ed. Efram Sera-Shriar (Pittsburgh: University of Pittsburgh Press, 2018), 1–13.

[59] Mirjam Brusius, 'Towards a History of Preservation Practices: Archaeology, Heritage, and the History of Science', *International Journal of Middle East Studies* 47, no. 3 (2015): 574–79; Mirjam Brusius, 'Hitting Two Birds with One Stone: An Afterword on Archaeology and the History of Science', *History of Science* 55, no. 3 (2017): 383–91; William Carruthers and Stéphane Van Damme, 'Disassembling Archaeology, Reassembling the Modern World', *History of Science* 55, no. 3 (2017): 255–72; Meira Gold, 'Ancient Egypt and the Geological Antiquity of Man, 1847–1863', *History of Science* 57, no. 2 (2019): 194–230.

informants who went to the field on their behalf and sent back notes, measurements, sketches, and maps. By the time first-hand fieldwork was promoted as required experience in Egyptology, paper proxies, or field records, were elevated in status as necessary preservation for what was being destroyed during excavation. Field-recording remained an important practice for archaeologists in the field, but for new reasons.

Questions relating to the authority of the field and fieldwork have received surprisingly little attention within histories of archaeology, with two notable exceptions. Gavin Lucas shows that the archaeologists normally regarded as revolutionising archaeological fieldwork (e.g. Schliemann, Pitt-Rivers, and Petrie) actually shared more in common with their predecessors than is normally considered to be the case. While late nineteenth-century archaeologists placed more emphasis on careful and thorough field-recording, they were still primarily concerned with the retrieval of artefacts for comparison in the metropole.[60] Lucas's analysis is significant because it underscores that this was a transitionary period in field archaeology, rather than the abrupt implementation of a set of practices at the hands of only a few men. However, Lucas is much more concerned with the development of archaeological methodology alone, such as the relative significance of stratigraphy or typology for explaining historical chronologies. Moreover, by starting his analysis in 1880, and focusing on only well-known male archaeologists, Lucas omits any discussion of what it meant to do fieldwork in the previous period, or the relationship between these archaeologists, labourers in the field, and public audiences.

This thesis considers Egyptology as a new field science that emerged from, and shaped, colonial and national projects from the late nineteenth century. This follows Nadja Abu el-Haj's analysis of Israeli archaeology in the same period. Archaeology was a "project of making place" by laying claim to foreign terrain through sustained observation, mapping, excavation, and preservation of antiquities. There are striking parallels between British practitioners working in Egypt and Palestine at the end of the nineteenth century, many of whom, like Petrie, practiced in both places. Not least was a shared concern about reliable (and unreliable) witnessing, the credibility of local knowledge, and place-making.[61] Building on el-Haj, I show that these shared concerns characterised how archaeological knowledge was made, communicated, and scrutinised in semi-colonial Egypt. However, my thesis focuses more on the gradual transition from second-hand to first-hand witnessing and the relationship between invisibility and popularisation.

By concentrating on the I field, I present an alternative way of understanding the era of empire and economic expansion that enabled the disciplinary development of Victorian

[60] Gavin Lucas, *Critical Approaches to Fieldwork: Contemporary and Historical Archaeological Practice* (London: Routledge, 2001), 18–32.
[61] Nadia Abu El-Haj, *Facts on the Ground: Archaeological Practice and Territorial Self-Fashioning in Israeli Society* (Chicago: University of Chicago Press, 2001), 20–44.

Egyptology. The chapters that follow do not focus on the objects that were removed from Egypt and shipped to British museums during the nineteenth century (although this is discussed when relevant).[62] Instead, I focus on how various practitioners engaged with the built environment of pharaonic ruins: material remains such as large monuments, architecture, burial pits, and soil mounds that remained *in situ*. How did practitioners observe, excavate, collect from, and record these materials? How did they communicate archaeological knowledge long-distance? How did they promote the field to the British public and convince them of what they did there? How did field archaeologists compete with museum professionals to popularise ancient Egypt and establish the authority of Egyptology among the British audiences? How did they demarcate pharaonic ruins as materials that specifically belonged to western science and not to local Egyptians? How did archaeologists succeed in establishing the field site as a locus for Egyptological training, fashioning expert identity, systematic and rigorous excavation, and authoritative knowledge production in Egyptology? This is therefore a project about how the field became important in Egyptology and why it matters today.

Chapter Outlines

This dissertation provides a new account of the origins of archaeological fieldwork in the Nile Delta. I trace a crucial development in British Egyptology from an activity that could be practiced from London through a network of informants to something that required first-hand excavation experience. It is organised into two parts, "long-distance archaeology" and the "shift to the field." These correspond roughly to the periods before and after the British Occupation in 1882. The first part analyses the relationship between distance and expertise by investigating the recording and communication practices of London-based scholars and their field informants in Egypt. I show that first-hand experience in the field was not necessary for metropole-based scholars—so long as they could demonstrate that they had trusted informants, field notes, and visual images to work from. The second part shows that reliable witnessing and establishing trust between members of the hierarchical excavation machine, continued to shape fieldwork in Egyptology well into the early twentieth century.

Part I begins with chapter 1, which introduces the concept of "long-distance archaeology" in the mid-nineteenth century, when archaeological information was routinely gathered in the field by trusted informants then analysed and further disseminated by scholars in the metropole. This kind of research in Egyptology demanded, equally, written records and visual representations to

[62] For this, see Stephanie Moser, *Wondrous Curiosities: Ancient Egypt at the British Museum* (Chicago: University of Chicago Press, 2006); Stevenson, 'Artefacts of Excavation'; Stevenson, *Scattered Finds*.

mobilise information between spaces of fieldwork and analysis, as well as actors with some form of expertise to guarantee the credibility of their testimonies and records. One such example were excavations at Memphis and Heliopolis in the 1850s. Jointly-funded by the Royal Society and Egyptian government, this work was directed from afar by Scottish geologist Leonard Horner and supervised in Egypt by Armenian-Turkish engineer Joseph Hekekyan, who relied on a number of Egyptian supervisors, foremen, and labourers. With the principle objective to track Nile silt deposits on ancient monuments and compile a geochronology of ancient Egypt, Horner used Hekekyan's first-hand observations and detailed drawings, maps, notes, and measurements to show that humans had existed in Egypt from at least 13,371 years before their time. This chapter traces these geo-archaeological investigations, including the movement of paper records, Hekekyan's role as a go-between, and the reception of Horner's geochronology in Britain.

Chapter 2 delves more deeply into the fundamentals of long-distance archaeology, presenting a second example at Tell el-Yahudiyeh from 1870 to 1882. Analysis of Tell el-Yahudiyeh was carried out by architect Thomas Hayter Lewis in London through a large correspondence network of museum practitioners in Britain, explorers and collectors in Egypt, and the help of Scottish medical doctor and archaeological informant James Grant, based in Cairo. These activities culminated with the first report of excavations at Tell el-Yahudiyeh to the Society of Biblical Archaeology and the publication of the first archaeological map of the site in the society's *Transactions* in 1880. The map was an important visual tool for intellectually claiming the field from afar. This chapter traces the recording and communication practices of Lewis's network as a way of understanding how archaeological knowledge was circulated during this period. Using the example of Tell el-Yahudiyeh, this chapter also suggests that while long-distance archaeology may resemble the phenomena of nineteenth-century armchair scholarship, the sphere of knowledge-making in mid-Victorian Egyptology was not limited to the field or the armchair.

Part II introduces the "shift to the field;" essentially, the idea that Egyptological expertise could be gained only from time spent in Egypt. I interrogate this idea from two different perspectives. First, chapter 3 unpacks the excavations by the British School of Archaeology in Egypt, from 1905 to 1906, at several *Tells* (mound sites) in the Eastern Delta. This fieldwork came amidst Petrie's turn-of-the-century campaign to train male excavators in field techniques, promote archaeological fieldwork as rigorous and scientific, and self-fashion the "field archaeologist" to be superior to his museum counterparts in Britain. Yet despite being on site, Petrie rarely excavated. His main duties were delegating and surveilling at a distance. In this sense, his field practices were not all that different from his predecessors. I argue that the push for first-hand fieldwork was primarily about becoming an expert witness—this required being in Egypt and building his archaeological reputation in Britain. The big changes that took place in fieldwork during this period,

so often credited to Petrie alone, had more to do with the new spatial and social relations that were being formed between skilled and unskilled Egyptian workers, male field students, female copyists, and Flinders Petrie's wife Hilda Petrie, who co-managed fieldwork. Much of Petrie's productivity as an archaeologist resulted from his ability to bridge the gap between the management of labour in the field and popularising Egyptology in the metropole.

Chapter 4 then focuses on how "the field" was utilised in the popularisation of Egyptology in the late nineteenth and early twentieth centuries. Egyptologists manipulated the periodical press, not simply to promote the spectacle of excavations and encourage public subscriptions for fieldwork but also to create a new readership sympathetic to Egyptology as a useful colonial science. I focus first on Amelia B. Edward's effective media campaign on behalf of the Egypt Exploration Fund through newspapers, periodicals, public lectures, and exhibitions. David Gange has discussed how Edwards capitalised on biblical and classical tropes, and the urgent preservation of material heritage, to solicit public subscriptions to sponsor fieldwork.[63] I build on this work to show that these were tactics towards a much larger project—establishing public accessibility to legitimise her own role as a new kind of expert in Egyptology. I then show how decades later, the Petries continued Edward's public-oriented practices in a new context, as Petrie presented himself simultaneously as field populariser and field practitioner. Taken together, chapters 3 and 4 suggest that the process of publicising excavations in Egypt became a crucial mechanism of erasure, rendering largely invisible the Egyptians who were doing much of the manual and technical labour in the field and the women who were copying, writing, fundraising, managing labour and finances, and teaching. The publicity machine helped cement field archaeology as crucial to Egyptological knowledge construction and shaped the romantic myth of Egyptology that endures today.

[63] David Gange, 'Religion and Science in Late Nineteenth-Century British Egyptology', *The Historical Journal* 49, no. 04 (2006): 1083–1103; David Gange, *Dialogues with the Dead: Egyptology in British Culture and Religion, 1822-1922* (Oxford: Oxford University Press, 2013), 157-163,175-196; Gange, 'The Ruins of Preservation'.

PART I

Long-Distance Archaeology

1 Fieldwork and Geochronology, 1850-1863

> It is one of the faults of the present age for individuals to aim at almost universal knowledge, so that even he who is wise enough to see the impossibility of success and the danger of becoming a smatterer, often thinks himself obliged to make some attempts towards it…the careful copyist, the laborious investigator, the acute philologer, does not always possess the qualifications of a chronologer and a historian.
>
> Reginald Stuart Poole, "Egypt, Ethiopia, and the Peninsula of Sinai," *Journal of Sacred Literature and Biblical Record* 6, no. 12 (July 1854): 315.

This criticism was mounted against renowned philologist Karl Richard Lepsius's *Letters from Egypt* (1853), penned by the young British Museum numismatist and chronologist, Reginald Stuart Poole. It came in the wake of the Prussian expedition to Egypt and the Sudan, led by Lepsius between 1842 and 1846, to accurately record the country's ancient monuments. Modelled after the Napoleonic expedition to Egypt in 1798, the Prussian mission was state funded by Frederich Willhelm IV and had the support of respected Prussian naturalists, scholars, and diplomats. Relying on Egyptian labourers, Lepsius's team recorded thousands of inscriptions for his multi-volume *Denkmäler aus Ägypten und Äthiopien* (1849-1856). The expedition elevated Lepsius to heroic status. He represented a new type of Egyptologist—an expert philologist, archaeologist, and a master surveyor of Egypt. Yet according to Poole's negative review, Lepsius's field experience did not give him the authority to address the most divisive Egyptological problem of the day: "the great question of chronology." It was commonly believed that Egypt contained some of the earliest artificial materials in the world. Ancient Egyptian chronology was often inseparable from biblical chronology, and therefore, became a crux of heated cross-disciplinary debates about the age, origin, and development of human civilization. Victorian naturalists and scholars from many backgrounds looked to the Nile Valley's artefacts to support their various claims. Poole's comments are indicative of vast disagreements in the middle of the nineteenth century about what constituted the new "science of Egyptian archaeology."[64] As British practitioners had not led sustained expeditions in Egypt since the early 1830s, the relationship between expertise and locality was increasingly called into question. Who possessed Egyptological expertise? To what degree was experiencing Egypt first-hand necessary?

The chronological problem of Egyptian antiquity offers an appropriate area to focus these questions about fieldwork, particularly because chronology was the shared focus of key Victorian

[64] Reginald Stuart Poole, *Horae Aegyptiacae, or the Chronology of Ancient Egypt* (London: John Murray, 1851), v.

disciplines, notably geology, ethnology and archaeology.[65] Representatives from each subject had distinct yet overlapping research programs. Geologists occupied themselves with deep-earth history, stratigraphy, paleontology, and mineralogy.[66] Ethnologists were concerned with the history of human races and closely aligned with comparative linguistics.[67] Historic and prehistoric archaeologists in Britain concentrated predominantly on that country's past.[68] Ancient Egyptian chronology was increasingly in the public spotlight due to new antiquities displays in the Sydenham Crystal Palace and the British Museum. The museum's new Egyptian Sculpture Gallery in 1854 was organised chronologically for the first time, and new acquisitions generally consisted of smaller objects that filled in the chronological gaps in the existing collection.[69] An unprecedented amount of hieroglyphic translations, antiquities collections, and travel accounts from Egypt were also providing new sources of data. However, Egyptologists (then more commonly described as Egyptologers, Hieroglyphicists, or Hierologists) were few in number. They formed a fragmented array of practitioners engaged with chronology, philology, exegesis, museology, travel writing and sketching, artefact collection and analysis.[70] Amongst all the topics that aroused the curiosity of these disparate groups mid-century, few inspired interdisciplinary transformations as much as the question of human antiquity, to which ancient Egypt was central.

Egypt played a key role in human antiquity debates largely because of the European imperial project. French savants in the early nineteenth century had convened around an enigmatic multifaceted Egypt, as the source of ancient wisdom, a decayed country with peoples ripe for colonization, and as a strategic political gateway to the Orient.[71] Debates about the age of the Dendera zodiac exemplifies how Egyptian artefacts were promoted as the basis for extreme human antiquity and, further, exposed competing ways of understanding the remote human past, as well as rising tensions between scientific and religious authority.[72] By mid-century, practitioners from a

---

[65] For a longer version of this chapter which focuses even more on the geological human antiquity debates, see Gold, 'Ancient Egypt and the Geological Antiquity of Man, 1847–1863'.
[66] James A. Secord, *Controversy in Victorian Geology: The Cambrian-Silurian Dispute* (Princeton: Princeton University Press, 1986), pp. 24–38; Van Riper, *Men among the Mammoths*, pp. 45–54.
[67] Stocking Jr., *Victorian Anthropology*, p. 52.
[68] Philippa Levine, *The Amateur and the Professional: Antiquarians, Historians and Archaeologists in Victorian England, 1838–1886* (Cambridge: Cambridge University Press, 1986), pp. 7–39; Van Riper, *Men among the Mammoths*, pp. 15–43; Bruce G. Trigger, *A History of Archaeological Thought*, 2nd ed. (New York: Cambridge University Press, 2006), pp. 133–47; Peter Rowley-Conwy, *From Genesis to Prehistory: The Archaeological Three Age System and Its Contested Reception in Denmark, Britain, and Ireland* (Oxford: Oxford University Press, 2007).
[69] Moser, *Wondrous Curiosities*; Stephanie Moser, *Designing Antiquity: Owen Jones, Ancient Egypt and the Crystal Palace* (New Haven, Conn.: Yale University Press, 2012).
[70] David Gange, *Dialogues with the Dead: Egyptology in British Culture and Religion, 1822–1922* (Oxford: Oxford University Press, 2013), pp. 53–120.
[71] For instance, Charles Coulston Gillispie, "Scientific Aspects of the French Egyptian Expedition 1798–1801," *Proceedings of the American Philosophical Society* 133 (1989): 447–74; Simon Schaffer, "Oriental Metrology and the Politics of Antiquity in Nineteenth-Century Survey Sciences," *Science in Context* 30 (2017): 173–212.
[72] Jed Z. Buchwald and Diane Greco Josefowicz, *The Zodiac of Paris: How an Improbable Controversy over an Ancient Egyptian Artifact Provoked a Modern Debate between Religion and Science* (Princeton: Princeton University Press, 2010).

wide range of disciplines shared a growing interest in the human past with little consensus on how to study it. Like French naturalists before them, British geologists sought a solution in Egypt. The first Arabic-speaking country to experience overlapping colonial encroachments by European powers, Egypt became an autonomous state within the Ottoman empire under the rule of Muhammad Ali Pasha and his male successors. European consuls and technicians held high positions in the country's administration, particularly in public works and communications. From 1852, Britain kept an increasing presence in the north to oversee the construction of the Cairo-Alexandria railway and maintenance of the overland trade route to India.[73] This renewed British occupancy proved useful for naturalists and scholars. During a period when most Victorians believed humans were only six thousand years old, local labour and knowledge of antiquities, geology, and engineering became vital for understanding human antiquity.

One notable example of such expertise was Joseph Hekekyan, a Turkish Armenian engineer educated in Britain and resident in Cairo, who supervised geo-archaeological excavations at the ancient sites of Heliopolis and Memphis. Hekekyan meticulously recorded his field observations in hundreds of letters, reports, sketches, and maps which he sent to geologist Leonard Horner in London. From afar, Horner analysed the Nile flood sediments that had accumulated above and below pharaonic antiquities to produce the first geological chronology of ancient Egypt and to prove that "civilised" humans had existed there for exactly 13, 371 years. The excavations were jointly funded by the Royal Society of London and the Ottoman-Egyptian government of Abbas Pasha. They contributed to a research program, championed by Horner and his son-in-law, Charles Lyell, to measure alluvial sediments and assign absolute dates to the most recent geological period.

Hekekyan and Horner's excavations were a characteristic example of long-distance fieldwork in the mid-Victorian period. Their collaboration became the first initiative to apply stratigraphy – previously a relative dating tool in geology – to ancient Egyptian chronology and archaeology. This novel attempt to draw on earth history in order to understand human history had significant disciplinary implications. The incident does not merely point to the problems of human antiquity and Egyptian chronology in the 1850s and early 1860s but also to disputed methods of inquiry into those problems. Hekekyan's papers are remarkable examples of how field records were used to communicate scientific information over long distances and across national borders. Hekekyan embraced the roles of an Oriental *go-between*, a geological field assistant, and a gentleman of science to satisfy multinational interests, as well as his own.[74] Horner and Hekekyan's

[73] F. Robert Hunter, *Egypt under the Khedives, 1805-1879* (Cairo: The American University in Cairo Press, 1984), p. 93.
[74] For go-betweens, see Simon Schaffer et al., eds., 'Introduction', in *The Brokered World: Go-Betweens and Global Intelligence, 1770-1820* (Sagamore Beach, MA: Science History Publications, USA, 2009), ix–xxxviii; Kapil Raj, 'Go-

corresponding relationship, however, had a mixed reception by several overlapping groups in Britain, notably Egyptologists, geologists, scriptural chronologists, monogenist and polygenist ethnologists, and the German higher criticism and universal chronology of Christian Charles Josias von Bunsen. The geochronology was particularly threatening to biblical orthodoxy, and the work raised private and public concerns about chronological expertise and methodologies, scriptural and scientific authority, and especially, the reliability of Egyptian informants. This chapter highlights the difficulties of managing archaeological knowledge at a distance and the scrutinization of second-hand witnessing that formed part of the process. The episode illuminates competing ways of knowing the Egyptian past and the changing disciplinary map during the 1850s and 1860s.

Geological Chronology and the Missing Link

At an annual meeting of the Geological Society of London on 19 February 1847, president Leonard Horner called upon his colleagues to start investigating "geological chronology," especially the most recent human period. This interest was new for geologists, who regularly ordered strata in relative sequences but did not date them. Horner suggested the "recent period" was ill-defined and needed clarification. Some geologists associated it with written documents and called it the "historical period." Others thought it synonymous with the first appearance of the human species and referred to the "human period." Charles Darwin used the term "recent" to refer to alluvial deposits that contained fossils of both existing and extinct species.[75] Horner told his colleagues to start addressing the uncertainty clouding all time periods, including the most recent. Geologists should now seek to "define a certain division of time in the history of *the whole earth*."[76]

Horner was in an authoritative position to advocate such a potentially divisive subject. The son of a wealthy Edinburgh merchant and younger brother to the celebrated politician Frances Horner, Leonard was the patriarch of one of the best-known Whig families in the country and widely recognized as an accomplished geologist, educationalist, and social reformer. Horner studied at the University of Edinburgh from 1799, where he took an interest in mineralogy after reading John Playfair's *Illustrations of the Huttonian Theory of the Earth* (1802). He soon moved to London and became one of the earliest fellows of the Geological Society in 1808, then its secretary (1810–14), and thrice its president (1846–47 and 1860). His earliest geological papers earned him election as a fellow of the Royal Society in 1813, and he served as its Vice-President in 1857. As a Whig reformer,

Betweens, Travelers, and Cultural Translators', in *A Companion to the History of Science*, ed. Bernard Lightman (Chichester, UK: Wiley Blackwell, 2016), 39–57.

[75] Charles Darwin, *Geological Observations on South America* (London: Smith, Elder and Co., 1846), p. 13.

[76] Leonard Horner, "The Anniversary Address of the President," *The Quarterly Journal of the Geological Society of London* 3 (1847): xxxvi.

he founded the country's first mechanics institute, the Edinburgh School of Arts, to provide education in the natural sciences for the working-class and was the first warden to the nonconformist University of London. He was named royal commissioner in 1833 to investigate the employment of children in factories and his first report became the basis for the Factory Act passed in Parliament that year, ensuring working children had access to part-time education. For twenty-six years, he travelled around the country as a factory inspector.[77]

Horner's busy schedule rarely allowed time to conduct his own geological fieldwork. In one rare 1831 interlude, he and his wife Anne moved their six daughters to live in Bonn, and Horner spent eighteen months studying the mineralogy of the Rhine valley. He presented his observations to the Geological Society in two papers in 1833 and 1835. In the former, he discussed the relative age of the Loess, the last deposit before the recent historical period.[78] In the latter, he described his investigations into the mean velocity of the Rhine. Horner experimented by bringing up gallons of water by rope from different depths of the river and then drying and analysing the silt.[79] These were his earliest investigations into both recent geological time and alluvial excavations.

Lyell shared the enthusiasm for river sedimentation with his father-in-law. While he did not discuss human dates early on, Lyell's geological history always used an analogy with human antiquity. The first edition to *Principles of Geology* (1830) featured the Temple of Serapis in Naples on the frontispiece. Lyell studied the marine shells that had perforated the classical columns to show that the sea level had risen and fallen in antiquity in a steady state. Human history was the basis for his geohistory.[80] In his second visit to the United States in 1846, Lyell excavated on the alluvial plain of the Mississippi river and estimated the depth of the river bed and the amount of time it would have taken for the sediments to accumulate: a period of approximately sixty-seven thousand years.[81] According to Horner, this calculation was the first attempt "to give an approximate numerical value" to the most modern geological period. In the fifth edition of *Manual of Elementary Geology* (1855), Lyell further suggested that to understand the most recent human period, we need to investigate the deposits that have accumulated at the bottom of lakes, seas, and

---

[77] Biographies of Horner in William John Hamilton, "The Anniversary Address of the President," *The Quarterly Journal of the Geological Society of London* 21 (1865): xxx–xl; "Obituary Notices of Fellows Deceased," *Proceedings of the Royal Society of London* 14 (1865): v–x; Bernice Martin, "Leonard Horner: A Portrait of an Inspector of Factories," *International Review of Social History* 14 (1969): 412–43; Colin M. Brown, "Leonard Horner, 1785–1864: His Contribution to Education," *Journal of Educational Administration and History* 17 (1985): 1–10; Patrick N. O'Farrell, *Leonard Horner: Pioneering Reformer* (Edinburgh: Heriot-Watt University, 2010).

[78] Leonard Horner, "On the Geology of the Environs of Bonn," *Transactions of the Geological Society of London*, 2nd series 4 (1836): 469.

[79] Leonard Horner, "On the Quantity of Solid Matter Suspended in the Water of the Rhine," *The Edinburgh New Philosophical Journal* 18 (1835): 103.

[80] Martin J. S. Rudwick, *Worlds before Adam: The Reconstruction of Geohistory in the Age of Reform* (Chicago: University of Chicago Press, 2008), pp. 299–300.

[81] Sir Charles Lyell, "On the Delta and Alluvial Deposits of the Mississippi..." *American Journal of Science and Arts* 3 (1847): 34–9; Sir Charles Lyell, *A Second Visit to the United States of North America*, vol. 2 (London: John Murray, 1849), p. 250.

rivers in the last several thousand years. If those sediments contained fossilized human bones, or "articles fabricated by the hands of man," then we could date them.[82] Despite his initial reluctance to address human antiquity, Lyell had long proposed using historical artefacts to quantify sedimentary layers.

Horner similarly argued that measurements of sedimentary deposits in riverbeds were highly effective for constructing absolute chronologies. They could contain traces of human activity, and moreover, they were evidence of past geological changes that were still in operation. In 1847, Horner proposed alluvial excavations along the Nile river: "If, as in Egypt, there were in the valley of the Mississippi monuments of human art of remote antiquity…we should be able to form a tolerably correct estimate."[83] The Nile had what the Mississippi river valley was lacking: antiquities of known dates. Egypt was the missing link. The Nile valley, Horner argued, would be of the highest interest to both geologists and historians.

> Nowhere else on the face of the earth can we hope to find such a link connecting the earliest historical with the latest geological time. For in Egypt we have accurate records of the earliest periods of the human race … combined with records … of geological changes contemporaneous with history, and these last having such a degree of uniformity as to warrant us in carrying back the dates of changes of a like nature beyond that of the earliest historical documents.[84]

Horner's intention to unite late geological with early historical time owed much to the work of French savants half a century prior. Utilizing antiquarian and Classical scholarship and extending Jean-André de Luc's geological analysis of the Rhine Delta, geologist Déodat de Dolomieu first investigated the rate of sediment increase in the Nile Valley to reconstruct the geological history of Egypt. Dolomieu argued in his *Mémoire sur la constitution physique de l'Egypte* (1793) that Nile silt deposits were the result of a finite period of geological activity limited to the last few millennia. Like Horner, his self-proclaimed novel methodology integrated "historical monuments with geological observations," and as Martin Rudwick argues, represented a shift towards the new science of geohistory.[85] Dolomieu's subsequent participation in the Napoleonic expedition to Egypt was short-lived. However, the expedition's chief engineer, Pierre-Simon Girard, continued Dolomieu's line of inquiry by focusing on nilometers: monuments used in antiquity to measure the annual height of the Nile during inundation. In the *Description de l'Egypte,* Girard described two nilometers, one on the island of Elephantine in the south and another on the Island of Rhoda near Cairo, arguing that the Nile rose much higher in modern times than it had in antiquity. He

---

[82] Sir Charles Lyell, *A Manual of Elementary Geology*, 5th ed. (London: John Murray, 1855), pp. 117–8.
[83] Horner, *"Anniversary Address*," (1847), p. xliv.
[84] Leonard Horner, "An Account of Some Recent Researches Near Cairo...Part I," *Philosophical Transactions of the Royal Society of London* 145 (1855): 108.
[85] Rudwick, *Bursting the Limits of Time*, pp. 321–4.

concluded that the river water had risen at an average rate of 0.126 meters per century and that river sediments accumulated at the same speed.[86] Horner surmised Girard's analysis was useful but insufficient. Calculating a mean rate of soil increase was not accurate because surely Nile sediments accumulated in different amounts throughout the valley. The same kind of calculations needed to be performed at specific locations, where a monument of a known date could act as a fixed point in time. Horner saw his research as a continuation of Girard's important work.[87]

Horner was equally inspired by Lepsius's observations of ancient Nile levels during the Prussian expedition. While exploring the cliffs of Semne in Nubia, Lepsius found marks cut into the solid rocks and foundation stones of a fortress from the time of Sesostris II and two temples of Thutmoses III. He inferred that the riverbed had lowered approximately twenty-eight feet in the intervening four thousand years since the buildings were occupied. Contrary to Girard's findings, Lepsius believed the Nile flowed higher in antiquity than in the present day. Horner presented these conclusions to the Geological Society in April 1850 and published a critique in the *Edinburgh Philosophical Journal* three months later.[88] Lepsius's results presented a conundrum for Horner. He rejected Lepsius's conclusion, but he could not offer an alternative explanation. The answer could only be found if Horner investigated ancient Nile levels himself.

Excavations in Heliopolis and Memphis, 1851–54

Horner's objective was to measure the depth of Nile sediments that had accumulated above and below some of the oldest known monuments in Egypt. However, he was still occupied as a factory inspector and did not have the opportunity to travel and conduct fieldwork. Late in 1850, family friend Florence Nightingale presented him with a solution. Nightingale had recently toured up the Nile and described a British antiquarian she had met in Alexandria named Anthony Charles Harris who was likely to assist him.[89] Horner wrote Harris to propose excavations at Heliopolis and inquired whether he could direct them on his behalf. He stressed that the excavations could only be viable if they were under the supervision of someone of "trustworthy value."[90] Horner also

---

[86] Pierre-Simon Girard, "Observations Sur La Vellée d'Égypte, et Sur l'exhaussement Séculaire Du Sol Qui La Recouvre," in *Mémoires de l'Académie Royale Des Sciences de l'Institute de France* (Paris, 1817), p. 266.
[87] Leonard Horner, "An Account of Some Recent Researches Near Cairo...Part II," *Philosophical Transactions of the Royal Society of London* 148 (1858): 80–4.
[88] Leonard Horner, "Observations on the Discovery, by Professor Lepsius, of Sculptured Marks on Rocks in the Nile Valley in Nubia," *Quarterly Journal of the Geological Society* 6 (1850): 384–5; Leonard Horner, "Observations on the Discovery, by Professor Lepsius...," *Edinburgh New Philosophical Journal* 49 (1850): 126–44; Richard Lepsius, *Letters from Egypt, Ethiopia, and the Peninsula of Sinai*, trans. by Joanna B. Horner and Leonora Horner (London: H. G. Bohn, 1853).
[89] Katharine M. Lyell (ed.), *Memoir of Leonard Horner*, vol. 2 (London: Women's Printing Society, 1890), pp. 178–9.
[90] Horner to Harris, 25 December 1850, Hekekyan Papers, 37459.2, British Library (hereafter cited as Hekekyan MSS).

explained his plan to Charles Augustus Murray, the British Consul-General in Egypt. Murray, in turn, requested help from the newly appointed Viceroy of Egypt, Abbas Pasha. Murray had some leverage with the Viceroy, who had recently authorized that a British railway be built between Alexandria and Cairo as a partial alternative to the French-financed Suez Canal project. Abbas Pasha agreed to subsidize Horner's funds from the Royal Society, supplying corvée (forced) labour and tools.[91] All three proposed an engineer in the Egyptian government's service named Joseph Hekekyan to supervise the excavations, and Hekekyan was instructed "to make the required researches" wherever he was directed.[92]

Hekekyan was a native of Istanbul and raised in an Armenian Catholic family. His father was a translator for the Khedive of Egypt, Muhammad Ali Pasha. In 1818, at the age of ten, the Viceroy sponsored Hekekyan to study abroad in England and put him under the care of Samuel Briggs, the former British Consul in Alexandria. Hekekyan received seven years of English education, first at Clapham Academy and then at the prestigious Catholic Stonyhurst College. There he was introduced to natural philosophy, chemistry, and geology, and excelled in arithmetic, geometry, geography, English, French, handwriting, and especially "drawing and sketching from nature."[93] At the Khedive's order, Hekekyan undertook an additional five-year apprenticeship in theoretical and practical mechanics at Bramah's Engineering Factory in Pimlico, studying steam engines, machinery, hydraulics, surveying, and irrigation, and visited Manchester and Glasgow factories to study spinning and weaving techniques. He simultaneously attended lectures in mechanics institutes and read widely on natural philosophy, mineralogy, geology, and architecture, and drew "plans, elevations, and sections of Pumps and Steam Engines."[94] He returned to Egypt in 1830 so that Muhammad Ali could "derive some practical benefit" from his studies abroad, and quickly became active in the country's educational and industrial reform.[95] He was appointed Chief Overseer in several cotton mills, trained students from Qasr al-Ayni College in geometry and mechanics, headed the new Polytechnic engineering school in Boulaq, and helped establish the Egyptian School in Paris.[96] He was also engaged in several additional government projects; he was

[91] Donald M. Reid, *Whose Pharaohs? Archaeology, Museums, and Egyptian National Identity from Napoleon to World War I* (Berkeley: University of California Press, 2002), p. 62.
[92] Hekekyan to Harris, 11 March 1851, Hekekyan MSS, 37460.2 and 37448.215.
[93] Journal Entry, Hekekyan MSS, 37448.179.
[94] Journal Entry, Hekekyan MSS, 37448.184.
[95] Journal Entry, Hekekyan MSS, 37448.166–214; Paul Sedra, *From Mission to Modernity: Evangelicals, Reformers and Education in Nineteenth Century Egypt* (New York: Palgrave Macmillan, 2011), pp. 63–6.
[96] Ahmed Abdel-Rahim Mustafa, "The Hekekyan Papers," in Peter Malcolm Holt (ed.) *Political and Social Change in Modern Egypt: Historical Studies from the Ottoman Conquest to the United Arab Republic* (London: Oxford University Press, 1968), p. 69; Darrell Dykstra, "Joseph Hekekyan and the Egyptian School in Paris," *Armenian Review* 35 (1982): 165–82; Sedra, *From Mission to Modernity*, pp. 75–83.

Figure 1.1. Sketch of Joseph Hekekyan, c. 1858, signed Esperon. Caption reads "angry at the Viceroy for suspending the works in a most arbitrary spirit." Hekekyan MSS, 37454.1.

president of the Board of Health from 1849, oversaw the construction of roads and bridges, and directed three coal mining expeditions into the Egyptian deserts.

Hekekyan was one of several Europeanized Armenians who were educated abroad and became members of Egypt's bureaucratic elite during the reign of Muhammad Ali. They were multilingual, held high-ranking government positions (commonly as translators, in education, or foreign affairs and commerce), and enjoyed close ties to European consuls. In an effort to extend their personal power and influence, Armenian officials strategically advocated on behalf of European interests, rather than Turkish or Egyptian interests.[97] Hekekyan illustrates this point. His background and education alienated him from his adopted Egypt. He was raised among polite gentry and returned from overseas as Joseph, not Yusuf. He spoke several European languages but had temporarily forgotten his native Turkish. He even dressed differently, wearing gloves and stockings, and sporting a large moustache (**Figure 1.1**). He did not fit neatly into other cultural subsets. He was not a British citizen, nor an Egyptian; he had studied in Britain when Muhammad Ali had sent forty-four Egyptian students to study in Paris. Donald Reid argues that, following his return to Egypt, Hekekyan increasingly embraced "European stereotypes of Muslim fanaticism," partially because his closest friends were European visitors and settlers. Egyptian colleagues

[97] Hunter, *Egypt under the Khedives*, pp. 92–3, 111–7.

regarded him as an "English infidel" while westerners thought he was "a very exceptional type of the Europeanized Oriental."[98] He was particularly fond of British progressive ideologies such as industrial growth, free trade, and the superiority of European civilisation.

Hekekyan's British partiality and idiosyncrasy affected his attitude towards the contested antiquities ordinances of the era. Muhammad Ali's 1835 *Antiqakhana* decree sought to restrict the European exportation of Pharaonic materials and to establish a national museum in Ezbekiyeh. The Pasha enlisted the Egyptian scholar and technician Rifa'a al-Tahtawi to manage the collection and Hekekyan to design the building (although it was never built). While Tahtawi, an Egyptian-born, French-educated Muslim, focused his scholarly efforts towards educating his fellow Egyptians about Pharaonic heritage, Hekekyan deliberately channelled western concerns for antiquities conservation, believing artefacts would fare better under the protection of European museums.[99] Hekekyan also cofounded the Egyptian Society in Cairo (or Société Égyptienne), which had been established in 1836 to replace the defunct Institut d'Égypte. The society was a rendezvous for Europeans travelling through the country and its members included Hekekyan's British colleagues Harris and Murray. As an Armenian in the Egyptian court, Hekekyan had enjoyed French and Ottoman protection under the reign of Muhammad Ali. When political circumstances changed in 1850, Hekekyan found himself concerned for his family's safety and urgently wrote Briggs to ask for "English protection."[100] Hekekyan resigned from the government's service a year later, supposedly because of his chronic ophthalmia. Horner's 1851 research proposal was timed well. Hekekyan's agreement to work for Horner reinforced his British allegiance.

As excavation plans were negotiated, the project quickly expanded from "the sinking of a few pits" to a huge geo-archaeological project requiring many bodies. Fieldwork began in June 1851 around the still-standing obelisk of Sesostris I in Heliopolis near Cairo. The next three summers work was performed around the fallen colossal statue of Ramses II in nearby Memphis, while ninety-five additional probings were made along the Nile flood plain. The work was no small feat. Excavations took four years of fieldwork and cost more than three thousand guineas

---

[98] Mustafa, *"Hekekyan Papers,"* p. 69; David G. Jeffreys, "Joseph Hekekyan at Heliopolis," in Anthony Leahy and William John Tait (eds.) *Studies on Ancient Egypt in Honour of H. S. Smith* (London: Egypt Exploration Society, 1999), p. 158; Reid, *Whose Pharaohs?*, pp. 49, 59–63; David G. Jeffreys, "Introduction: Two Hundred Years of Ancient Egypt: Modern Egypt and Ancient Archaeology," in David G. Jeffreys (ed.) *Views of Ancient Egypt since Napoleon Bonaparte: Imperialism, Colonialism and Modern Appropriations* (London: UCL Press, 2003), p. 9.

[99] Reid, *Whose Pharaohs?*, pp. 54–63; Elliott Colla, *Conflicted Antiquities: Egyptology, Egyptomania, Egyptian Modernity* (Durham, NC: Duke University Press, 2007), pp. 116–20.

[100] Hekekyan to Briggs, 29 April 1851, Hekekyan MSS, 37452.48–9. Most Armenian high officials were relatives and part of a bureaucratic faction, enjoying group-protection. Hekekyan and his wealthy brother-in-law Artin Bey, Egypt's Director of Foreign Affairs and Commerce, were both vocally critical of the new Khedive's autocratic power. Artin Bey fled Egypt in 1850 with a large sum of money, which angered Abbas Pasha and prompted Hekekyan's fears over his family's safety. See Hunter, *Egypt under the Khedives,* pp. 112–15 and Mustafa, *"Hekekyan Papers,"* p. 70.

expenditure. Some funding, approximately £50, came from the Royal Society of London, but the cost was mostly offset by the Ottoman-Egyptian government.

British and French archaeological concessions in Egypt during the early decades of the nineteenth century were decentralised. As part of the corvée labour policy of Muhammad Ali and the development of a partial wage economy in reforming Egypt, he and his Ottoman governors commissioned village *shuyukh* (single *shaykh*) to enlist local labourers. The workforce normally included several experienced foremen, or *ru'asa*.[101] The excavations in Heliopolis and Memphis indicate these labour practices continued during Abbas Pasha's transitional reign, from 1848 to 1854. Throughout Hekekyan was assisted by several military and engineering officers appointed to him by the Viceroy, particularly Hekekyan's friend Omar Effendi, the Adjutant of Artillery who had similarly studied statistical geography, natural philosophy, and English in Britain.[102] Hekekyan appointed his engineering students from the Polytechnic School as site supervisors because they were "practiced in the art of surveying." His drawings suggest additional foremen oversaw excavations (**Figure 1.2**). Approximately sixty local Egyptian youths, farmers, and Bedouin were recruited and subdivided into groups of ten for maximum productivity.[103] As was typical, tasks were organised according to class, gender, and age; foremen managed workers, men cleared stones and dirt using their own hoes, boys (and possibly girls) carried dirt away in baskets, while women provided food and water.[104] This hierarchical and social organization was considered necessary for research on such a large scale. The Egyptian labourers were supervised by Egyptian foremen and engineers higher in rank, who looked to Hekekyan for guidance, who in turn reported to Horner.

Hekekyan and Horner's corresponding relationship was built upon a social contract. Horner, a gentlemanly geologist, would have been all too familiar with the standard literature on observational practices. Both John Herschel and Henry De la Beche spoke to the advantages of a "division of labour" between observer and theorist; this system had benefited geology in particular because any hard-worker able to "[set] aside all theoretical views" could prove useful in the field.[105] Those industrious helpers were expected to observe specific phenomena, record facts numerically and consistently, note the circumstances of their observations, and transmit their records for theoretical analysis. This is precisely what Horner demanded, likely regarding Hekekyan as a

[101] Doyon, 'On Archaeological Labor in Modern Egypt'.
[102] Journal Entry, Hekekyan MSS, 37448.56.
[103] Horner, *"Recent Researches near Cairo,"* (1855), p. 121; Horner, "*Recent Researches near Cairo,"* (1858), pp. 54–5.
[104] For more on Egyptological labour in the nineteenth and early twentieth centuries, see Doyon, *"On Archaeological Labor"* and Stephen Quirke, *Hidden Hands: Egyptian workforces in Petrie excavation archives, 1880–1924* (London: Duckworth, 2010).
[105] John F.W. Herschel, *A Preliminary Discourse on the Study of Natural History* (London: Longmans, Rees, Orme, Brown, and Green, 1831), pp. 131–4; Henry De la Beche, *How to Observe: Geology* (London: Charles Knight, 1835), pp. iii–iv.

Figure 1.2. Sketch of excavations in Mit Rahina, c.1852. Hekekyan, standing centre, was always differentiated by his suit and hat and because he never drew himself digging, but only pointing or writing. Hekekyan was accompanied by a number of Egyptian supervisors, foremen, and labourers, including children. Hekekyan MSS, 37453.2.

specialist field assistant—an essential role in De la Beche's large-scale Geological Survey of Great Britain (whose *Memoirs* Horner greatly admired).[106] Horner addressed Hekekyan as his "coadjutor on the spot," pointing both to his reliance on and superiority to him. Hekekyan was instructed where to dig, how to probe, observe, collect, record, preserve specimens, and how to ship them to London.[107] By directing the work at a distance, Horner self-identified as his project's primary theoretician.

Horner was "startled to find a gentleman and a scholar" among the officers of the Egyptian government and vetted Hekekyan thoroughly, requesting Briggs send him a character reference.[108] Briggs confirmed Hekekyan's education in England, his perfect knowledge of English and French, and most importantly, his familiarity with gentlemanly society. Horner was assured that Hekekyan's "principles and feelings are those of an English Gentleman and he justly enjoys the respect and

[106] James A. Secord, "The Geological Survey of Great Britain as a Research School, 1839–1855," *History of Science* 24 (1986): 223, 235, 254.
[107] Horner to Hekekyan, 27 April 1851, Hekekyan MSS, 37459.5–6 and 37460.3–4; Horner to Hekekyan, n.d., Hekekyan MSS, 37460.43.
[108] Horner to Harris, 18 December 1852, Hekekyan MSS, 37459.54–5.

esteem of all who know him."[109] This vote of confidence was a necessary precondition to the Egyptian excavations. Horner would need to rely on gentlemanly trust to become a virtual witness from afar.[110]

Hekekyan fulfilled his contract with Horner zealously by inscribing his observations in thorough field records. These paper spaces – notebooks, journals, correspondence, reports, drawings, and maps – were proxy pictures.[111] They stood in the field's place, mobilizing information between the field site and Horner's study, and acting as substitutes for parts of the field that, unlike small artefacts and soil samples, were not transportable and therefore inaccessible to Horner. Hekekyan recorded his daily observations, the progress of work, the nature of the soil, and the water levels in field notebooks. He later redacted all the information into a journal, where the data was presented in narrated form. He included numerical tables and lists with dates and times of observations and measurements of the Nile's elevation in ancient Egyptian cubits, English inches, and French meters. This was helpful for Horner's comparison with Girard's earlier work, but also crucial in an era where European surveys in the Orient were focused on representing ancient objects through their own metrological standards.[112] Moreover, Hekekyan provided outstanding visuals: plans and cross-sections of the excavation areas, detailed topographical maps, watercolours, and more. He developed a unique system for stratigraphic units, making both simple and complicated versions (**Figure 1.3**). This geological tool was entirely new to Egyptology, where it was used for the first time to date historical artefacts, independent of historical records or inscriptions. Hekekyan's visual language was equally inspired by his communication with Horner, his engineering background, his education in natural philosophy and geology, and his artistic expertise. His journals and drawings provided the basis for Horner's analysis.

While he performed his duties thoroughly, Hekekyan did not accept the role of passive informant or assistant—he aspired to gentlemanly status. He identified as quasi-British, was acquainted with wealthy European naturalists and travellers, and he was not paid personally for the fieldwork. He presented himself as superior to his Egyptian students and labourers, as evident through the sketches of fieldwork he sent Horner. Hekekyan consistently drew himself in a suit and hat while pointing to his underlings or writing in his notebook (**Figure 1.2**). He often redrew the same excavation scene between his notebook, journal, and final report, strategically removing peasants and fieldworkers and instead portraying himself as the master surveyor with an objective overview of the site (**Figure 1.4)**. Hekekyan also used Horner's project to further his own agenda.

---

[109] Briggs to Horner, June 1852, Hekekyan MSS, 37459.58–9 and 37460.35–6.
[110] Steven Shapin and Simon Schaffer, *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life* (Princeton: Princeton University Press, 1985), pp. 60–5; Steven Shapin, *A Social History of Truth: Civility and Science in Seventeenth-Century England* (Chicago: University of Chicago Press, 1994), p. 245.
[111] On proxy pictures see Rudwick, *Bursting the Limits of Time*, pp. 75–80.
[112] Schaffer, *"Oriental Metrology"*.

Figure 1.3. A detailed stratigraphy with soil descriptions (left). Stratigraphies of several borings arranged alongside one another (right). Hekekyan MSS, 37459.455 and 37459.572.

Figure 1.4. Three sketches of the base of an obelisk in Memphis. The first is from Hekekyan's field notebook, 1854 (left). The letters on either side are soil descriptions and two workers were drawn above the trench. The image was transformed for Hekekyan's journal (centre), where he added more visual detail in the antiquities and stratigraphy and replace the simple letters with a complicated referencing system, explained in the body of the text. He also highlighted the hieroglyphs from the monument, changed the placement of the two workers, and added himself beside them. The last version (right) was sent to Horner with the final field report in 1857. Hekekyan omitted all workers, showing only himself on a donkey atop a more detailed landscape. A new referencing system explained in the accompanying text. Hekekyan MSS, 37454.129, 37452.261, and 37459.566.

Section of the first Shaft and deepest boring at the Statue of RAMESSES II.

Layer*.	Thickness of layer†.	Depth of the bottom of the layer from the surface of the ground.	Nature of the soils.
	inches.	inches.	
I.	7·875	.....	The surface layer at the superior ridge of the excavation, a brown sandy argillaceous earth, with a mixture of white sand, and small fragments of limestone and burnt brick. It closely resembles the standard specimen E, described in Part I. of this Memoir, page 127.
II.	23·625	31·500	Undistinguishable from I., except in being of a lighter colour.
III.	15·750	47·250	Scarcely distinguishable from I., except in being more indurated, like dried clay, and containing fragments of pottery.
IV.	31·500	78·750	Similar in all respects to III.
V.	35·375	114·125	Scarcely distinguishable from II. and III.
VI.	27·520	141·645	Almost identical with V., with fragments of limestone and brick.
VII.	15·730	157·375	Very similar to III. and VI., with fragments of burnt brick.
VIII.	39·375	196·750	Nearly identical with VII.
			16 feet, $4\frac{3}{4}$ inches. Filtration water, 4 August, 1852.
Boring layers.			
IX.	8·000	204·75	Light brown sandy argillaceous earth, with fragments of burnt brick.
X.	48·000	252·75	Dark brown argillaceous earth, with fragments of burnt brick and particles of pottery.
XI.	48·000	300·75	Similar to X., with fragments of limestone.
XII.	24·000	324·75	Similar to X., with fragments of burnt brick and pottery.
XIII.	12·000	336·75	Similar to IX., with fragments of burnt brick, pottery and limestone.
XIV.	12·000	348·75	A mixture of IX. and transparent quartzose sand.
XV.	12·000	360·75	Similar to XIV., but the earth of a lighter colour.
XVI.	24·000	384·75	Shining black sand, composed of rounded and crystalline grains of magnetic iron, and a few round grains of transparent quartz.
XVII.	12·000	396·75	Same as preceding, with a mixture of argillaceous earth.
XVIII.	12·000	408·75	Same as XVI.
XIX.	12·000	470·75	Same as XVII.
XX.	12·000	432·75	Same as XVII., with darker-coloured argillaceous earth.
XXI.	24·000	456·75	Same as XX., *but with fragments of burnt brick and pottery.*
XXII.	24·000	480·75	Same as XVI.
			40 feet from the surface of the ground.

Figure 1.5. The deepest excavated strata under the statue of Ramses II as presented by Horner. Layer XXI was notable because it contained "fragments of burnt brick and pottery." From Leonard Horner, "An Account of Some Recent Researches Near Cairo…Part II," *Philosophical Transactions of the Royal Society of London* 148 (1858): 58.

He desired acknowledgment for his artistic ingenuity, his knowledge of geology, archaeology, and engineering, and above all, his theoretical input. Over the four years of fieldwork for Horner, Hekekyan simultaneously excavated nearby areas and began writing his own monograph on Egyptian chronology, which he intended for publication in Britain. Therefore, there was some tension between the differing expectations of both parties. It benefited both Horner and Hekekyan to promote the latter's identity to legitimize the research. However, for the conclusions to be accepted by Britain's scientific elite, Horner needed to present them as his own.

Hekekyan's textual and visual tools allowed Horner to become an authority at a distance and to recreate Heliopolis and Memphis in his London study. Once received, Horner laid all the maps, drawings, reports, and correspondence on his desk and began to "extract and arrange" them.[113] While Hekekyan's drawings were necessary, it was not obvious to Horner that they were appropriate for his geological audience. He did not showcase any of them in his presentations to

[113] Horner to Hekekyan, 6 July 1852, Hekekyan MSS, 37459.103 and 37460.50–1.

Figure 1.6. Soil samples from Heliopolis and Memphis. These samples were excavated by Egyptian workers, sent to Horner for analysis, and donated to the British Museum in 1864, where they are currently in storage. Author's personal photo taken with permission.

the Royal Society in 1855 or 1858, or in the subsequent publications. Instead, Horner synthesized everything into a handful of lists, plans, and stratigraphies (**Figure 1.5**). His factory job was a resource for this transformation of data. There he was concerned with inspecting technical systems and labour forces managed by others, and this experience proved useful when judging Hekekyan's activities from afar. Horner's geological lists were further inspired by his factory reports. Like those produced under his colleague De la Beche for the Geological Survey, Horner's were similarly modelled after large population surveys, part of the social and educational reforming movements of the era.[114] Horner's visuals would have been familiar to his geological audience, who were used to viewing large tables of statistical data.

Horner intended to address the archaeological results in a separate monograph, although this was never completed. Most of the artefacts were apparently inappropriate for presentation to the Royal Society's collections because of their historical character.[115] Nonetheless, Horner listed some of the more important objects in his second paper. One set of artefacts was so remarkable that it served as the basis for his conclusions. Fieldworkers repeatedly lowered a "boring instrument" that brought up cores of soil from deep in the ground. Many of these were sent to Horner in London (**Figure 1.6**). In the lowest depths of one excavation pit, thirty-nine feet below the statue of Ramses II, workers retrieved a soil sample with fragments of burnt brick and pottery

[114] Secord, "Geological Survey".
[115] Horner to Hekekyan, 2 January 1864, Hekekyan MSS, 37459.770; Horner, *"Recent Researches near Cairo,"* (1855), p. 132.

contained within it. Horner showcased the artefacts to the Royal Society and described their importance in the *Philosophical Transactions*. He also explained his method for analysing the rate of sediment increase. Horner took Hekekyan's measurements of the sedimentary deposits that accumulated above the foundation of the Egyptian monuments, divided that amount by the number of centuries that had elapsed since they were erected, and applied that same chronometric scale to the sediments below the monuments. He calculated that near Cairo the Nile river had risen approximately three-and-a-half inches per century. Accordingly, the entirety of Dynastic Egypt belonged to the recent geological period. The archaeological finds were "a record of the existence of man" 13,371 years earlier, suggesting that humans were civilized enough at that time to "fashion clay into vessels."[116]

Horner did not ignore the second-hand nature of his analysis but instead promoted Hekekyan in the *Philosophical Transactions*, portraying him as an exceptional Europeanized Oriental and referring to him as his "very able coadjutor." In the body of the 1855 paper, Hekekyan was described as "an Armenian gentleman resident in Cairo" with "an earnest desire to be employed in a scientific enquiry of this nature." By the 1858 paper, Hekekyan's lengthy biography was relegated to the appendix. There Horner emphasized how entirely rare it was "that a subject of the Grand Sultan, and one resident in Egypt, should be distinguished by attainments in science and literature." He highlighted Hekekyan's intellectual and bodily suitability for the work and sold him as a better alternative than himself.

> Such extensive operations could not have been undertaken by a European, by any one not thoroughly inured to the climate of Egypt, nor by anyone unacquainted with pursuits in physical science, and who was not familiar with the language of the numerous persons to be employed, of whom a large proportion must be common labourers. The researches had to be carried on under a burning sun, and they were continued for three years. My correspondence with Hekekyan Bey has been going on for more than five years; he writes English like a native, and it would be difficult for me to over-rate the value of his unwearied cooperation.[117]

Horner marketed him as a trustworthy gentleman of science without whose help the work would not have been accomplished. Hekekyan was a go-between, mobilizing his observations through correspondence, notes, and sketches, and translating and mediating between Arabic-speaking fieldworkers and students, Turkish-speaking government officials, and English, French, and German-speaking scholars. British audiences may have been temporarily disposed to welcoming

[116] *Horner, "Recent Researches near Cairo,"* (1858), pp. 71–6.
[117] Horner, "*Recent Researches near Cairo,"* (1858), p. 78.

Hekekyan, who identified as an Ottoman and British ally in the wake of the Crimean War. And yet, Hekekyan could not be pigeonholed. He maintained a liminal status that put Horner in a double bind. Hekekyan both intrigued and agitated audiences in Britain.

Egyptological Disagreements

The first to review Horner's paper was biblical chronologist and Egyptologist, Samuel Sharpe, best-known for preparing the Egyptian court of the 1854 Sydenham Crystal Palace. Sharpe was president of the eclectic Syro-Egyptian Society of London, a group whose members were the public face of British Egyptology and closely associated with the Unitarian movement. The society's aim was to "establish a secular, chronological context for biblical events," and members were sympathetic to dissenting chronologies and rational interpretations of scripture.[118] Sharpe discussed Horner's results in a meeting of 8 March 1859 and claimed his conclusions rested on two faulty assumptions. First, he challenged Horner's analysis of the Nile sediments' secular increase. Sharpe pointed out that a large embankment would have likely surrounded the statue of Ramses II in antiquity preventing any mud from being deposited around it. It would only be possible to measure alluvial deposits from the period in which the city was abandoned, and the enclosure wall neglected – a date which could not be known for certain. The sediments had likely been deposited only in the last eight hundred years.[119] Horner read Sharpe's critique after it was summarized in the *Athenaeum* and the two corresponded on the matter. Sharpe explained that Horner's findings were impossible for a second reason, because there were no buildings in Egypt as old as 2000 BCE, therefore no mudbrick could exist from that time. While there could be pottery that dated to an earlier period, he wrote: "your diggings near Memphis hardly proves even that."[120] The author of an unsigned article in the *Quarterly Review* agreed that "there is not a single known structure of burnt brick" in pre-Roman Egypt.[121]

Both criticisms were problematic for Horner, who complained to his daughter, "If, as is probable, there was an embankment, Sharpe's objection is good; but as to the amount to which it will affect the rate of secular increase, nothing can be said until we know at what period the Nile inundation again overflowed the site…"[122] Horner followed up with Harris and Hekekyan, to whom he sent copies of both reviews. Harris thought that Sharpe's embankment theory was probably correct; however, he had examples of burnt brick with hieratic inscriptions in his private

---

[118] Gange, *Dialogues with the Dead*, pp. 95–120.
[119] "Societies: Syro-Egyptian" (editorial), *The Athenaeum,* 19 March 1859, p. 293.
[120] Sharpe to Horner, 13 April 1858, Horner Papers, 2216.27–8, National Library of Scotland (hereafter cited as Horner MSS).
[121] [Sir William Smith], "Bunsen's Egypt and the Chronology of the Bible," *Quarterly Review* 105 (April 1859): 421.
[122] Lyell, *Memoir of Leonard Horner* 2, pp. 285–6.

collection that suggested the second criticism was unfounded. Sharpe's critique was overall "worthy of attention" but his calculations were probably wrong.[123] Pleased with this feedback, Horner surmised that the article in the *Quarterly Review* "was in part at least, written in the British Museum, and it will not be difficult for me, I apprehend, to point to pottery in that collection more than a thousand years old before the existence of Rome."[124]

Hekekyan's response did not come quickly and Horner grew frustrated. He worried that Sharpe was correct that the pottery fragments were Roman, not Egyptian: "Now is this assertion true? If it is, then it is a most astounding and incomprehensible fact that you found fragments of burial brick at the lowest depths in so many of the borings excavations!"[125] Hekekyan was occupied performing additional excavations and compiling his monograph. He eventually replied to reassure Horner that Egyptians undoubtedly made burnt brick thirteen thousand years earlier. There was simply a problem of preservation, so "the ruins of only a few of the most solid have survived dilapidation to our time."[126] While Hekekyan was not personally acquainted with Sharpe, he promised to send the scholar "a list of eight geochronological sections" to prove his point. However, this never came to fruition.[127]

Two years later Hekekyan was finally close to finishing his book and told Horner that it "will contain embodied in it my answer to the attacks made on the general results of your late researches."[128] Published with Horner's assistance in London, his book was titled *A Treatise on the Chronology of Siriadic Monuments* (1863). It introduced the term "geo-astronomy" and suggested that the Pharaonic dynasties recorded by the Egyptian priest Manetho in the third century BCE were based on astrogeological Nile observations. Ancient Egyptian monuments, he believed, were designed with advanced knowledge and concretized measurements relating to the movement of Sirius. He attempted to show that those who built Siriadic monuments were far more skilled than their modern descendants and that the Egyptian race had not evolved unidirectionally.[129] This view was inspired by the French savants Hekekyan regularly cited, especially Girard, who attempted to recover and repurpose what he believed was the extreme metrological precision contained within Egyptian hydraulic monuments.[130] Hekekyan appropriated this Napoleonic idea in order to align himself with those superior ancients and their European descendants.

---

[123] Harris to Horner, 21 July 1859, Horner MSS, 2216.35–6.
[124] Lyell, *Memoir of Leonard Horner* 2, p. 287.
[125] Horner to Hekekyan, 1 July 1859, Hekekyan MSS, 37459.671.
[126] Hekekyan to Horner, 20 July 1859, Hekekyan MSS, 2216.33–4.
[127] Hekekyan to Horner, July 1859, Hekekyan MSS, 37459.675–6.
[128] Horner to Hekekyan, 10 April 1861, Hekekyan MSS, 37459.741.
[129] Joseph Hekekyan, *A Treatise on the Chronology of Siriadic Monuments* (London: Taylor and Francis, 1863), pp. v, ix.
[130] Schaffer, *"Oriental Metrology,"* pp. 182–4.

Hekekyan's book only referred to his excavations with Horner allegorically, through a fictional discussion in ancient Heliopolis between Manetho and a visiting Greek scholar. Hekekyan likened himself to Manetho (thus to an ancient chronologist), telling the Greek about an excavation in Memphis forty years earlier that "was found studded with remnants of the work of man" and "an abundance of baked clay fragments." That deepest stratum was 8,280 years-old and the country had been occupied by humans since that time. The Greek lamented that he does not "know how these things will be received in Athens, where it is the general belief that the world itself was created only 4004 years before the fall of Troy" – a reference to Ussher's creation date of 4004 BCE.[131] Evidently, Manetho's absolute dates represented Hekekyan and Horner's chronology while the Greek's reluctance represented those who dismissed those dates because of their deviance from Scripture.

Just prior to the book's publication, Hekekyan visited England for the London Exposition of 1862, during which time he finally met Horner and dined with his family and the Lyells. After Hekekyan returned to Egypt in 1863, Horner wrote confirming the publication and distribution of Hekekyan's book. Much to Horner's disappointment, the book never directly disputed Sharpe. Horner was moreover saddened and shocked "to find that in your conversation with Sir Charles Lyell you left an impression on him, that you consider Mr Sharpe's objection to be valid. I thought that you considered me right all along on this fundamental posit."[132] Hekekyan did not respond before Horner's death in March 1864, and Sharpe's criticism remained a problem for the legacy of Horner's chronological scale.

Geologists' Reluctance

The responses to Horner's research from gentlemanly naturalists were overwhelmingly respectful. He was Vice-President of the Royal Society at the time of publication and enjoyed the high praise of his peers. Horner was particularly well-situated because his Bloomsbury household regularly provided the elite social spaces for scientific discussion and debate.[133] Most members of the scientific establishment thought Sharpe's embankment theory obliterated Horner's specific conclusions, but they nevertheless believed his research was highly valuable. They agreed that the method by which Horner came upon his data – through Hekekyan's keen observations and detailed records – was more than satisfactory.

---

131 Hekekyan, *Chronology of Siriadic Monuments*, pp. xiii–xiv, xxx–xxxi, xxxiii.
132 Horner to Hekekyan, 21 November 1863, Hekekyan MSS, 37459.766.
133 James A. Secord, *Victorian Sensation: The Extraordinary Publication, Reception, and Secret Authorship of Vestiges of the Natural History of Creation* (Chicago: University of Chicago Press, 2000), pp. 410–6.

This was emphasized in some of the early books on prehistory. Many dismissed Horner's conclusions but repeated his words verbatim that Hekekyan was "well qualified for the task" and that the work was very important. In *Prehistoric Man* (1862), Daniel Wilson compared Horner's conclusions to other suspect archaeological claims, cautioning his readers that man-made objects are frequently given incorrect and premature dates. Horner's "speculations relative to the age of pottery and burnt brick" were uncertain, but "his researches were carried out on a comprehensive scale, by observers well qualified for the task."[134] In *Pre-historic Times* (1865), John Lubbock praised Horner's thoroughness but thought "the calculations very doubtful." He reasoned that the pedestal of the fallen statue of Ramses II could have been at a lower or higher elevation in antiquity than Horner proposed – either way, his dating would be incorrect. Lubbock also grappled with the embankment issue and could not accept Horner's claims without reservation. He nonetheless conceded that "his experiments are of great importance."[135]

Horner found his most ardent geological supporter in Lyell. Early in 1859, Lyell proudly advertised Horner's papers on Egypt, "proving that pottery was made there 13,000 years ago."[136] Yet a few months later in his presidential address to the British Association for the Advancement of Science (BAAS), he focused on the antiquity of man but did not even mention Horner. [137] This was likely because Lyell had failed to dispel the doubts from Sharpe's embankment theory in the interim. However, in preparation for his *Geological Evidence for the Antiquity of Man*, Lyell strove to defend Horner against the criticism that his burnt bricks were Roman. He consulted Samuel Birch, the Keeper of Oriental Antiquities at the British Museum, while dining together at Horner's home in 1860. Birch confided that Sharpe and the *Quarterly Review* were wrong because he had two burnt bricks in his collection with hieroglyphic inscriptions that were from the second millennium BCE.[138] On the topic of Horner's methods, Lyell also told his readers about Hekekyan who "was in every way highly qualified for the task." The sixty workmen were also suitable because they were "men inured to the climate and able to carry on the sinking of shafts and borings during the hot months…in a season which would have been fatal to Europeans." Lyell defended Horner against any racial suspicions that "Arabs can always find whatever their employers desire to obtain" and argued anyone "well acquainted with the sagacity and energy of Hekekyan Bey" would not "suspect

[134] Daniel Wilson, *Prehistoric Man: Researches into the Origin of Civilisation in the Old and the New World* (Cambridge: Macmillan & Co., 1862), p. 48.
[135] John Lubbock, *Pre-Historic Times: As Illustrated by Ancient Remains, and the Manners and Customs of Modern Savages* (London: Williams and Norgate, 1865), pp. 320–3.
[136] Katharine M. Lyell (ed.), *Life, Letters and Journal Sir Charles Lyell*, vol. 2 (London: John Murray, 1881), p. 320.
[137] Sir Charles Lyell, "On the Occurrence of Works of Human Art in Post-Pliocene Deposits," in *Report of the Twenty-Ninth Meeting of the British Association for the Advancement of Science* (London: John Murray, 1860), pp. 93–5.
[138] Charles Lyell to Samuel Birch, 16 December 1861, MS 3477, Middle East Library, British Museum; Lyell, *Antiquity of Man*, p. 37.

him of having been deceived." There may have been flaws with the final conclusions, but according to Lyell and his colleagues, Hekekyan and Horner's collaboration was entirely credible.

Geologists' tepid reactions to Horner's chronology can be understood as a reflection of their attitudes towards absolute dating. Victorian geologists eagerly assigned relative chronologies to strata by the objects, rocks, or fossils found within them, arguing that one layer was sequentially older than another. However, attempts to definitively date any of those objects were controversial. Prehistoric artefacts without inscriptions on them were even harder to read than rocks. Many geologists avoided dating them or commenting about those who did. Lyell shared Horner's general perspectives and therefore did not shy away but settled on roughly one-hundred thousand years for the age of humans in *Antiquity of Man*.[139] The precision of Horner's 13, 371 figure was irrelevant, as Horner's general claim for remote antiquity supported Lyell's. Geologists such as Lubbock, who similarly dismissed Horner's absolute dates but highlighted the importance of the research, ultimately conceded one-hundred thousand years or more for the age of man.

Others thought Lyell's figure was too extreme and settled on the ten thousand years proposed by geologist Joseph Prestwich. Among the latter camp were John Phillips and James David Forbes, neither of whom were supporters of Lyell's uniformitarianism.[140] In their anonymous reviews of Lyell's book, both criticized Horner for assigning absolute dates to his strata, suggesting there was not enough data to do so with certainty. Phillips, who had previously had a good relationship with Horner, said the estimation of the strata was vague and mocked Lyell for allowing "that Egyptologists regard the experiments as inconclusive, and the period consumed in the deposition…as still undetermined." The calculations from the alluvial sediments of both the Mississippi and Nile were "manifestly inadequate" to support the "immense antiquity" of humans in Europe.[141] Forbes similarly wrote that Horner's calculations were "liable to even greater uncertainties" than Lyell's from the Mississippi Valley. Forbes highlighted all the "very serious doubts" that had been raised against the calculations by Egyptologists, then thanked Lyell for explaining them and absolving the reader "from the task of analysing these considerations."[142] Both followers of Lyell and Prestwich thought the Egyptologists' critiques destroyed Horner's absolute dates; only the former agreed that the general claim could be retained because his methodology and analysis were sound.

---

[139] Lyell, *Antiquity of Man*, p. 204.
[140] Van Riper, *Men among the Mammoths*, pp. 151–65.
[141] [John Phillips], "Antiquity of Man," *Quarterly Review* 114 (1863): 384, 416; Jack Morrell, *John Phillips and the Business of Victorian Science* (Aldershot: Ashgate, 2005), 360–63.
[142] [James D. Forbes], "Lyell on the Antiquity of Man," *Edinburgh Review* 118 (1863): 289.

Credibility at Stake

In contrast to the geologists, the Tory *Quarterly Review* suggested Horner's chronology was not credible because he had not been to Egypt to supervise the work personally, and indeed because no European had directly witnessed the excavations. The anonymous author was (Sir) William Smith, a lexicographer known for making classical and biblical history accessible to a wide audience. Smith's popular approach mimicked those of the earlier scriptural geologists and opposed elite geologists like Lyell, who had long been accused of only producing complicated works restricted to scientific experts. Smith dismissed Horner's research supposedly because it was lacking first-hand observations and relied instead on unknown field informants.

> Mr Horner is both a sound geologist and a man of honour, and he certainly would not intentionally deceive us. But unfortunately, his testimony in this case is of little or no value, as he is not an independent witness, but simply a reporter of the observations of others. If he had been personally present, and had seen with his own eyes the boring-instrument bring up from a depth of thirty-nine feet of Nile-deposit a piece of pottery, we should have the testimony of a worthy and competent witness; but his mere belief of the alleged fact, without personal observation, is of no value whatever in a scientific point of view … We know nothing of the credibility or competency of the person or persons who made the discovery. But we do know that in all such cases, whatever is wanted is always found…all who have had experience in these matters attach no importance to such specimens, unless the alleged discoverer is a scientific observer of whose character and competency there can be no question.[143]

The damning review concluded that "instead of establishing the existence of man in Egypt more than 13,000 years" ago, all Horner supplied was "convincing proof of the worthlessness of [his] theory."

Many of the negative reviews that followed cited Smith and highlighted the absurdity of Horner's reliance on someone they claimed was a virtually unknown informant. The Assyriologist Rev. Edward Hincks thought it likely that Horner's potsherd was "a contrivance of some Arab Douster-swivel" – a reference to a German swindler in Walter Scott's *The Antiquary* (1816).[144] Smith's article was also quoted by Reginald Stuart Poole, who, in addition to his chronological expertise, had spent years living and working in Egypt with his uncle, famed Orientalist Edward William Lane. Poole had published *Horae Aegyptiacae, or the Chronology of Ancient Egypt* (1851) at the age of seventeen and quickly became a proponent of an Egyptian chronology that agreed with biblical accounts and was supported by fixed astronomical dates supplied by George Airy.[145] He

---

143 [Smith], *"Bunsen's Egypt,"* pp. 418–21.
144 Dr. Rev. Edward Hincks, "Bunsen's Egypt," *Dublin University Magazine* 54 (July 1859): 21.
145 Reginald Stuart Poole, *Horae Aegyptiacae, or the Chronology of Ancient Egypt* (London: John Murray, 1851), p. 217; Reginald Stuart Poole, "Chronology," in William Smith (ed.) *A Dictionary of the Bible*, vol. 1 (London: John Murray, 1863), p. 327.

was one of a small handful of travelling Egyptologists known for their first-hand explorations. By contrast, members of the Syro-Egyptian Society such as Sharpe and Birch never went to Egypt. They relied on travellers, collectors, and antiquaries to observe and communicate information back to them. Horner was grouped with the latter.

In an appendix to the sixth edition of his uncle's *Manners and Customs of the Modern Egyptians* (1860), Poole described Horner's excavations as "a series of so-called scientific investigations (not conducted by himself)." He reiterated that Horner's conclusions were not trustworthy because he did not go to Egypt personally. He further opposed of the geologist widening his disciplinary scope to include historical dates.

> If Mr Horner had confined himself to the purely scientific question, the depth, etc. of the plain of Egypt in various sections, his results, supposing them to be trustworthy, would have been a contribution to the literature of the subject, and would have given important help to any really historical facts hereafter to be obtained…Mr. Horner's so-called historical facts being worthless, we may be asked what prospect there is of trustworthy evidence that may establish a synchronism between science and history. The chance appears remote, indeed.[146]

Poole argued that geologists should stick to rocks and sequencing sedimentary layers while chronologers like himself continued to preside over human history. In his view, their research programs and disciplinary authorities were compatible only if distinct. These attacks on Horner's locality and Hekekyan's expertise were undoubtedly frustrating for Horner, who had gone to great lengths to confirm Hekekyan's trustworthiness. Horner's geological colleagues approved of the collaboration, as did Sharpe, who told Horner "I can see no fault in the manner in which your investigations have carried on. I think them most valuable."[147] Despite Horner's best efforts to certify him, permanent racial distrust of Hekekyan persisted; it was mobilized only by those who considered it beneficial to their agendas. Poole and Smith criticized Horner's methodology, particularly as it related to issues of working at a distance, and questioned Hekekyan's credibility, because their geological chronology threatened the historicity of scriptural chronology.

Scriptural Chronology and the German Threat

The negative reviews were exacerbated by Horner's close association with Christian Charles Josias von Bunsen, a high-ranking Prussian protestant diplomat and scholar in Britain, a proponent of German higher criticism and comparative philology, and one of the most influential and

[146] Reginald Stuart Poole, "On the Increase of the Nile-Deposit," in Edward William Lane, *An Account of the Manners and Customs of the Modern Egyptians*, 5th ed. (London: John Murray, 1860), pp. 593–8.
[147] Sharpe to Horner, 27 April 1859, Horner MSS, 2216.29–30.

controversial writers on ancient Egypt from the 1840s through 1860s.[148] Bunsen's most divisive work was his five-volume *Egypt's Place in Universal History*, which garnered wide attention in Britain following the German to English translations of the first three volumes in 1848, 1854, and 1859. Bunsen argued Egyptian texts supported the chronologies supplied by classical authors. The books were part of his larger research program on universal linguistic diffusion. His chronology was accepted by fellow continental Egyptologers Lepsius and Vicomte Emmanuel de Rougé, and his good friend Birch, who edited the final two English volumes posthumously, calling them "the most critical work yet published on the subject of Egyptian history."[149]

Horner quoted Bunsen in his publication and Bunsen included a summary of Horner's research in the introduction to his third English volume. The affiliation was mutually beneficial as both men corroborated one another and attempted to push back human antiquity beyond the traditional six thousand years – Horner to thirteen thousand and Bunsen to twenty thousand. Bunsen defended Horner's argument and assured his readers that Horner's evidence was well-grounded. He labelled Horner's research "historical, not geological" because "the soil which has been penetrated is exclusively historical soil, coeval with mankind."[150] Together, Horner's chronology and Bunsen's linguistic history attempted to blur disciplinary boundaries between geology and ancient history.

Horner's papers were reviewed alongside Bunsen's universal history in 1859 and both authors received similar criticisms. Smith also rejected Bunsen's chronology and accused him of hypocritically denying the authenticity of the Bible but using other ancient sources uncritically. Bunsen had "blind faith" in the Greek writers who were not "independent witnesses" to Egyptian civilization. Smith initially thought Bunsen might have "scientific corroboration" because Horner presented "at first sight something more tangible than his linguistic theory." But like Bunsen's Greek authors, Horner was not an independent witness, and his pottery was "no more likely than Mr. Bunsen's chronology, to compel us to abandon our faith in the old Hebrew records."[151]

This fight over chronological expertise was engulfed in wider debates about scriptural authority and biblical criticism. Evangelical fears over radical chronologies eased slightly by the early 1860s, but many, including Smith and Poole, continued to endorse a traditional Mosaic timeline for civilized humans. Smith claimed to be uncompromised by religious convictions but admitted he considered "the chronology of the Scriptures to be more credible" than Bunsen's

---

[148] John Rogerson, *Old Testament Criticism in the Nineteenth Century: England and Germany* (London: SPCK, 1984), pp. 121–9; Gange, *Dialogues with the Dead*, pp. 98–101.
[149] Quoted in Gange, *Dialogues with the Dead*, p. 98.
[150] Christian C.J. Bunsen, *Egypt's Place in Universal History*, trans. by Charles H. Cottrell, vol. 3 (London: Longmans, Green & Co., 1859), p. xxvi.
[151] [Smith], *"Bunsen's Egypt,"* p. 401; Gange, *Dialogues with the Dead*, pp. 98–9.

classical authors or Horner's geological strata.[152] Poole, who wrote on "Egypt" and "chronology" in Smith's influential three-volume *Dictionary of the Bible* (1863), similarly found Bunsen's history "repugnant to the Bible." He argued Bunsen was eager to accept Horner's chronology merely because it "fitted his elastic chronology with sufficient accuracy."[153]

Many nonconformists defended Bunsen's chronology despite the controversy. The Unitarian minister John Kenrick, a prominent member of the Syro-Egyptian Society, who had himself written on human prehistory, endorsed Bunsen. Kenrick hoped that the thoroughness of the work and Bunsen's character would "protect him from the outcry of impiety, so often raised against those who call in question opinions supposed to involve the authority of Scripture."[154] Bunsen always knew his Egyptian history would be contentious for this reason and did not want "to be misunderstood or abused as an unbeliever."[155] He thought himself a pious person who fought against religious dogmatism, and like his fellow German biblical critics, claimed to only seek the truth. Bunsen defended himself against the "theologians" and the "zealots," musing that "one might have supposed that in the nineteenth century chronological and purely philological research would be very safe against these hateful charges of being dangerous and pernicious." Unfortunately, he considered Poole part of a "growing systematic opposition to all free and independent research."[156]

The feud between Bunsen and Poole was not unprecedented. Bunsen was equally critical of Poole's *Horae Aegyptiacae* calling the book "a failure from beginning to end." It was full of "arbitrary assumptions" specifically made to complement biblical chronology, "which he has taken under his protection."[157] Poole in return criticized Lepsius's *Die Chronologie der Aegypter* (1849) and Leonora and Joanna Horner's translation of Lepsius's *Letters from Egypt, Ethiopia, and the Peninsula of Sinai* (1853), arguing that Lepsius was "going out of his proper sphere of usefulness to join himself to a party which rejects everything in the Bible."[158] Members of this party were the lions of Egyptian philology – Bunsen, De Rougé, and Birch – none of whom had been to Egypt. Lepsius's Egyptian expedition may have earned him respect from travelling Egyptologists, but that credibility was questioned when he aligned himself with the biblical critics. It is unsurprising that Bunsen and

---

[152] [Smith], *"Bunsen's Egypt,"* pp. 384–5.
[153] Poole, *"Nile-Deposit,"* p. 594; Poole, *"Chronology,"* p. 325; Reginald Stuart Poole, "Egypt," in William Smith (ed.) *A Dictionary of the Bible*, vol. 1 (London: John Murray, 1863), p. 506.
[154] John Kenrick, "The Chevalier Bunsen on the History of Egypt," *The Prospective Review* 2, 31 January 1846, p. 30; Gange, *Dialogues with the Dead*, p. 104.
[155] Baroness F.W. Bunsen, *A Memoir of Baron Bunsen*, vol. 1 (London: Longmans, Green, and Co., 1868), pp. 464–5.
[156] Christian C.J. Bunsen, *Aegyptens Stelle in der Weltgeschichte: Geschichtliche Untersuchung in fünf Büchern*, vol. 3 (Hamburg: F. Perthes, 1845), p. 29; Kenrick, *"Chevalier Bunsen,"* pp. 26–7.
[157] Bunsen, *Egypt's Place in Universal History* 3, pp. 30–1.
[158] Reginald Stuart Poole, "Egypt, Ethiopia, and the Peninsula of Sinai," *Journal of Sacred Literature and Biblical Record* 6 (July 1854): 315, 330.

Horner believed Poole was the author of the scathing article in the *Quarterly Review*. Bunsen told Horner that the article did not warrant a response.

> No, my dear Mr. Horner, not one word shall I answer Mr. Poole's article! Nothing is to refute when there is not a single, really argued account to match. The tone & tenor is that of the writings of a whipped schoolboy. Rougé gave him 10 years ago a very well meant admonition. I endorsed it (in my preface) which was the least I could do, after the immature and fanatical book he had written against Lepsius and my (and indeed against all since) chronology of Egypt…However it be, I have better things to do than answer so stupid an article. The [?] of your excavations I should think ought to be treated in the same way, silence of contempt. What fact or argument has he brought forward?[159]

The continental Egyptologists and their British supporters were further disassociated from Poole by their disciplinary affiliations. Historians have shown that by mid-century, professional alliances had formed between German historicism, liberal Anglican historians, and British geologists, such as Horner and Lyell.[160] Those involved were united by an appreciation for the Roman history of Barthold Georg Niebuhr and the school of comparative philology that he represented. Unitarian Egyptologists Kenrick and Sharpe shared this affinity.[161] Bunsen too enjoyed a close relationship with Niebuhr and dedicated the first volume of his Egyptian chronology to him. Bunsen also utilized geological terminology; his "law of [language] development" was based on a close reading of "linguistic strata."[162] These geologists, philologists, and historians aligned in their belief that a historicist approach, based on empirical evidence, would produce the most truthful accounts of the early stages of civilization.

Bunsen and Horner's opinions were consequently defended very publicly by the liberal churchman Rowland Williams in the influential *Essays and Reviews* (1860). Williams wrote that, before them, archaeologists unanimously believed that "Biblical chronology was too narrow in its limits." While Bunsen's twenty thousand years might be extreme, it would be difficult to disprove. As for Horner, "if pottery in a river's mud proves little, its tendency may agree with that of the discovery of very ancient pre-historic remains in many parts of the world." Bunsen's comparative linguistics "plead as convincingly as the succession of strata in geology, for enormous lapses of time."[163]

---

[159] Bunsen to Horner, 16 July 1859, Horner MSS, 2216.31–32.
[160] James R. Moore, "Geologists and Interpreters of Genesis in the Nineteenth Century," in David C. Lindberg and Ronald L. Numbers (eds.) *God and Nature: Historical Essays on the Encounter between Christianity and Science* (Berkeley: University of California Press, 1986), pp. 332–5; Stocking Jr., *Victorian Anthropology*, p. 37.
[161] Gange, *Dialogues with the Dead*, p. 107.
[162]Bunsen, *Egypt's Place in Universal History* 3, p. xxvi; Bunsen to Horner, 16 July 1859, Horner MSS, 2216.31–2.
[163] Dr. Rowland Williams, "Bunsen's Biblical Researches," in John William Parker (ed.) *Essays and Reviews* (London: John W. Parker and Son, 1860), pp. 54–5.

Essays and Reviews was widely read and criticized. Bishop Samuel Wilberforce condemned the publication, claiming the essays merely strung together "already abundantly repelled objections and fallacies of German rationalism." Much of Wilberforce's criticism focused directly on Bunsen and William's "daring flippancy."[164] In response, Lubbock drafted a letter in support of *Essays and Reviews* to the Archbishop of Canterbury in 1861, proclaiming to "welcome these attempts to establish religious teachings on a firmer and broader foundation." Horner, Lyell, and Darwin were among the co-signers of the address.[165] The letter cemented a union between historical critics and geologists in opposition to Evangelical theologians. It appears Smith, Poole, and others attacked Bunsen and Horner's chronologies, in part, because they were unfaithful to Scripture and represented a branch of continental Egyptology that was closely affiliated with the German higher critics and their geological allies in Britain.

The Chronological Problem of Human Origins

Horner and Bunsen's Egyptian chronologies also proved useful for members of the Ethnological Society of London investigating the origins of the earliest human races. The founder James Cowles Prichard had propounded an ethnology that relied heavily on philology and biblical chronology to demonstrate the unity of mankind. Pritchard and Bunsen presented alongside one another at the 1848 meeting of the BAAS. Bunsen claimed then that "Egyptological discoveries are most intimately connected with the great question of the primeval language and civilization of mankind" and that they supported "the opinion of the high, but not indefinite antiquity of human history," as well as "the hypothesis of the original unity of mankind and of a common origin of all languages of the globe.[166] Bunsen's universal history took a diffusionist approach, arguing that ancient people migrated from East to West and brought languages with them. This was complementary to the monogenist umbrella under which the Ethnological Society functioned. Pritchard ultimately accepted Bunsen's twenty thousand years because it allowed enough time for human races to develop from a common origin.[167] In the new Darwinian context of the early 1860s, members like

---

[164] Samuel Wilberforce, "Essays and Reviews," *Quarterly Review* 109 (January 1861): 299.
[165] Horace Hutchinson, *Life of Sir John Lubbock*, vol. 1 (London: MacMillan and Co., 1914), pp. 57–8; William H. Brock and Roy M. MacLeod, "The Scientists' Declaration: Reflexions on Science and Belief in the Wake of Essays and Reviews, 1864–5," *British Journal for the History of Science* 9 (1976): 45; Moore, *"Geologists and Interpreters of Genesis,"* p. 342.
[166] Christian C.J. Bunsen, "On the Results of the Recent Egyptian Researches in Reference to Asiatic and African Ethnology, and the Classification of Languages," in *Report of the Seventeenth Meeting of the British Association for the Advancement of Science* (London: John Murray, 1848), p. 299.
[167] James Cowles Prichard, "Note on the Biblical Chronology," in *Researches into the Physical Unity of Mankind*, 3rd ed., vol. 5 (London: Sherwood, Gilbert, and Piper, 1847), pp. 552–70; George W. Stocking Jr., "From Chronology to Ethnology: James Cowles Prichard and British Anthropology 1800–1850," in George W. Stocking Jr. (ed.) *Researches into the Physical History of Man*, by James Cowles Prichard (Chicago: University of Chicago Press, 1973), pp. xcv–xcvi; Stocking Jr., *Victorian Anthropology*, pp. 48–53, 57–8, 74–5.

Lyell and Lubbock were still thinking about human antiquity in a monogenist framework. They thus regarded Bunsen's and Horner's chronologies as a part-solution to the problem of civilization – this being the challenge confronting ethnologists, philologists, and geologists to explain human diffusion and racial variety in a relatively short period of time.

In contrast, society members who were part of a growing opposition of polygenists – those who believed in multiple origins for the human species – rejected Bunsen's chronology. Poole was one of these vocal opponents. He contributed to an apologetic movement that used pre-Adamite polygenism to harmonize archaeology, anthropology, philology, and geology with Genesis.[168] Poole's uncle Edward William Lane anonymously provided a pre-Adamite theory in *The Genesis of the Earth and of Man* (1856), using his expertise in Semitic languages. Poole edited the expanded second edition in 1860. Poole supported Lane's argument that there were two distinct human sources for linguistic traditions: a civilized Caucasian race descended from Adam and a barbarous pre-Adamite race that had produced crude flint tools.[169] The latter had originated in the Nile Valley and spread through Africa and Asia. Poole and Lane used the pre-Adamite theory to defend the biblical creation date and reconcile it with the recent geological evidences for remote human antiquity. They added a note to the second edition summarising the errors with Horner's research and concluding it merely showed that Egypt was inhabited by uncivilised humans thousands of years before Adam and Eve.[170]

Poole used his uncle's book and the ethnological society as additional platforms to attack Bunsen's monogenist chronology. The book's preface accused Bunsen of being "the representative of a school" who believes in "the unity of origin of the human race."[171] At an 1862 meeting of the society, after President John Crawfurd read his polygenist paper on the antiquity of man, Poole agreed that "no period of time could account for the growth of such languages" in the manner that Bunsen had suggested. Similarly, he argued stone, bronze, and iron tools in the archaeological record were evidence of different races, rather than successive periods in time. For him, neither language diffusion nor prehistoric artefacts were absolute evidence of the antiquity of one human species.[172] The explanation offered by Poole for his continued rejection of Bunsen and Horner's chronologies varied. Elsewhere he denounced their credibility based on their lack of field

[168] Bowdoin Van Riper, *Men among the Mammoths*, 169–71, 181; David N. Livingstone, *Adam's Ancestors: Race, Religion, and the Politics of Human Origins* (Baltimore: Johns Hopkins University Press, 2008), 100–103.
[169] Reginald Stuart Poole, 'The Ethnology of Egypt', *Transactions of the Ethnological Society of London* 2 (1863): 260–64.
[170] [Edward William Lane], *The Genesis of the Earth and of Man*, ed. by Reginald Stuart Poole, 2nd ed. (London: Williams and Norgate, 1860), pp. 289–91.
[171] Reginald Stuart Poole, "Editor's Preface," in [Lane], *Genesis of the Earth and of Man*, p. xvii.
[172] John Crawfurd, "On the Antiquity of Man from the Evidence of Language," *Transactions of the Ethnological Society of London* 2 (1863): 179–81.

experience and deviance from Scripture. Here he denied their joint supposition of a single human origin to secure his role as a leading pre-Adamite theorist and polygenist ethnologist.

When the polygenists broke away in 1863 to establish the competing Anthropological Society of London, Poole followed and was elected a local secretary.[173] James Hunt, the president and anonymous editor of the new society's *Anthropological Review*, similarly asserted the vast age of humans. Like Poole, he believed all savage races developed their languages independently.[174] Hunt sarcastically lambasted Lyell in the very first volume for including Horner's Egyptian research in his book on human antiquity. He targeted Hekekyan's credibility.

> We are sorry to find that Sir Charles Lyell has thought it worthwhile to notice such absurdities. Because some burnt brick was found sixty feet deep, therefore it must be twelve thousand years old! At least Hekekyan Bey, an Armenian, vouches for the pottery being found at that depth, and no doubt correctly. To waste money of the Royal Society, and to occupy the paper and print of the *Philosophical Transactions*, was bad enough, but to base a chronology on the evidence of Mr Horner adduced was preposterous.[175]

Hunt opposed the Egyptian research because it supported Bunsen's monogenism; his racial distrust of Hekekyan was a convenient justification for his criticism. However, he took even greater issue with Horner's objective to determine absolute dates. Hunt accepted that recent geological and palaeontological discoveries in Europe and North America, such as flint implements and human fossils, were compelling evidence of remote human antiquity. Humans were so old, he reasoned, that any attempt to assign even approximate dates to their first appearance was entirely absurd. In his first presidential address to the Anthropological Society and in the first volume of the *Anthropological Review*, Hunt criticised Bunsen and Horner's chronologies for this reason. He explained that "the naturally slow progress among primitive people…render the calculation to fix the age of mankind nearly impossible," and "it belongs to Egyptologists and chronologists to separate the fabulous from the probability of these computations." Readers were instructed not to dwell on Horner's figure of 13, 371 years for civilized humans in Egypt because his theory was worthless. He suggested Lane and Poole offered a pre-Adamite theory that was far more plausible and credible, not only because it explained how Egyptian civilization was already advanced only a short time after the biblical deluge, but because it did not calculate the age of man. Just like the

---

[173] Ordinary Meeting, 7 July 1863, *Transactions of the Anthropological Society of London* 1 (1863): xxvi; Stocking Jr., *Victorian Anthropology*, pp. 245–57; Efram Sera-Shriar, *The Making of British Anthropology, 1813–1871* (London: Pickering & Chatto, 2013), pp. 106–45.

[174] On Hunt as the anonymous editor of the *Anthropological Review*, see Efram Sera-Shriar, "The Scandalous Affair of the Anthropological Review: Hyde Clarke, James Hunt and British Anthropology in the 1860s," in Bernard Lightman and Bennett Zon (eds.) *Victorian Culture and the Origin of Disciplines* (Cambridge: Cambridge University Press, 2020), pp. 135–57.

[175] [James Hunt], "Lyell on the Geological Evidence of the Antiquity of Man," *The Anthropological Review* 1 (1863): 131–2.

reluctant geologists who endorsed only relative dating techniques, Hunt opposed Horner, Bunsen, and Lyell's absolute dates. He claimed that calculations to fix human chronology, whether on geological, archaeological, or linguistic evidences, were conjectural and an example of the poor "method of inquiry" that had been employed by anthropologists. Hunt instead promoted a new science of man that was based on "facts" and not "idle speculation," such as that apparent in Horner and Bunsen's publications.[176] His rejection of the geological chronology was therefore part of a strategy to legitimise his new society and the methodological direction he hoped it would take.

Conclusion

The long-distance investigations at Heliopolis and Memphis draw attention to several critical issues in the global history of science and circulation of field-based knowledge. Hekekyan and Horner's individual roles in the production and dissemination of the geological chronology sheds light on mid-century ambivalences towards first-hand field experience, reliance on local labour and knowledge, as well as the moral economy of gentlemanly trust, and concerns with locality, credibility, and expertise. Surprisingly, there was no opposition to the methods of Hekekyan's excavation, possibly because there were relatively few British travellers and residents in the Nile valley during these decades and this type of fieldwork was unfamiliar to British audiences. Instead, racist objections often focused on the credibility of Hekekyan and his Egyptian supervisors and workmen. Hekekyan's thorough records were practical tools for long-distance knowledge management. Yet Horner had to legitimize Hekekyan, by demonstrating his exceptionality and trustworthiness, as well as his hierarchical superiority to him, to make use of his knowledge. Colonial practitioners in this period often went to great lengths to establish their informants' credibility and produce reliable testimonies. For instance, Kapil Raj and Lawrence Dritsas have each looked at the local intermediaries employed by members of the Royal Geographical Society in the mid-nineteenth century, respectively in the Trans-Himalayan survey and search for the source of the Nile. In contrasting cases, Raj and Dritsas show that there was rarely British resistance to indigenous collaborators *unless* the knowledge they provided was unfavourable.[177] Here too, permanent distrust of Hekekyan was not intrinsic to any reviewers of the geological chronology, but it was deployed when necessary.

---

[176] James Hunt, "On the Study of Anthropology," *Anthropological Review* 1 (1863): 6; [James Hunt], "Notes on the Antiquity of Man," *Anthropological Review* 1 (1863): 63–5.

[177] Kapil Raj, *Relocating Modern Science: Circulation and the Construction of Knowledge in South Asia and Europe, 1650–1900* (New York: Palgrave Macmillan, 2010), pp. 212–22; Lawrence Dritsas, "Expeditionary Science: Conflicts of Method in Mid-Nineteenth-Century Geographical Discovery," in Charles W. J. Withers and David N. Livingstone (eds.) *Geographies of Nineteenth-Century Science* (Chicago and London: University of Chicago Press, 2011), pp. 255–78.

Despite its repudiation, the geo-archaeological research was especially influential in establishing long-term disciplinary changes. It fostered communication between Egyptology and anthropology and encouraged an intellectual separation between Egyptology and other natural sciences, notably geology and prehistoric archaeology. Hekekyan's groundwork moreover preceded two crucial late Victorian archaeological developments: detailed field recording and relative dating techniques independent of historical records.[178] Historians of Egyptology have remarked that Hekekyan was a "pioneer" who "led the way" in this regard, as his drawings anticipated, by decades, any comparable archaeological visual recording techniques.[179] Although relative chronological sequences had been used to classify and organize artefactual knowledge earlier in the century (e.g. the archaeological three-age system),[180] this was the first effort to use stratigraphy of sedimentary deposits to date historical artefacts *in situ*. This practice was not accidental, but a direct result of Hekekyan and Horner's corresponding relationship. Their mutual reliance to achieve personal objectives, their dialogue, individual skillsets, and their need to act at a distance, led to the mobilization of new techniques in new settings.

[178] Gavin Lucas, *Critical Approaches to Fieldwork: Contemporary and Historical Archaeological Practice* (London: Routledge, 2001), pp. 18–36; Gavin Lucas, *The Archaeology of Time* (London and New York: Routledge, 2005), pp. 1–15.
[179] Jeffreys, *"Joseph Hekekyan at Heliopolis"*; Reid, *Whose Pharaohs?*, p. 62; David G. Jeffreys, *The Survey of Memphis, vol. 7, The Hekekyan Papers and Other Sources for the Survey of Memphis* (London: Egypt Exploration Society, 2010), pp. 196–203.
[180] Trigger, *History of Archaeological Thought*, pp. 121–38; Rowley-Conwy, *Genesis to Prehistory*; Kasper Risbjerg Eskildsen, "The Language of Objects: Christian Jürgensen Thomsen's Science of the Past," *Isis* 103 (2012): 24–53.

2 Egyptological Networks and Witnessing, 1870-1882

> Claiming neither the vocation nor the ability of a professed historian, I am fain to content myself with the modest and subordinate merit of being a conscientious interpreter of the words of a past age…which frequent journeys to Upper Egypt have given me the opportunity of thoroughly examining on the very spot where each is extant.
>
> Heinrich Karl Brugsch-Bey, *A History of Egypt under the Pharaohs, Derived Entirely from the Monument*s, ed. Philip Smith, trans. Henry D. Seymour, vol. 1 (London: John Murray, 1879), xv-xvi.

Philologist Heinrich Karl Brugsch's self-reflection about his relative authority in Egyptology signalled certain changes unfolding in every aspect of the growing discipline. By the late 1870s, Brugsch was a Professor of Egyptology in Göttingen, director of the short-lived School of Egyptology in Cairo, and an established Prussian archaeologist-diplomat in Egypt. He benefited from the same Prussian networks that benefited his predecessors Bunsen and Lepsius, particularly state-funding and the encouragement of naturalist Alexander von Humboldt. Brugsch's *History of Egypt under the Pharaohs* claimed to be the first English-language manuscript to rely primarily on Egyptian hieroglyphs rather than "less-trustworthy" classical sources. The projects to translate hieroglyphic texts and to conduct field archaeology shared a concern for credibility. Disagreements over the accuracy of classic scholarship was a feature of early nineteenth-century philological debates.[181] As shown in chapter 1, tensions between classical, biblical, and Egyptian sources shaped chronological debates in the 1850s. For example, note Smith's criticism of Bunsen's "blind faith" in classical authors such as Manetho, Herodotus, and Josephus, who were increasingly considered "second-hand" witnesses to ancient Egyptian civilization.[182] Like second-hand testimonies from field informants, the reliability of these writers remained in question.

Egyptologists in the 1870s began to seriously consider such attacks on their credibility. Brugsch deliberately based his philological expertise on "personal examination of original records" in Egypt and could thus claim first-hand knowledge of antiquity. The *Quarterly Review* agreed the book was exceptional for just this reason. Not only was Brugsch's book "founded entirely on the monuments," but it also had "the unique merit of being derived from them *at first hand*." Brugsch's method of studying inscriptions "on the spot, in his repeated journeys throughout the land" was considered by some as more credible than that of Egyptologists who relied on second-hand "copies

[181] Suzanne Marchand, 'Herodotus and the Fate of Universal History in the Nineteenth-Century Germany' (unpublished manuscript, 2019).
[182] [Smith], 'Bunsen's Egypt and the Chronology of the Bible', 401.

and translations."[183] The *Edinburgh Review,* conversely, argued that Brugsch's narrow focus put his book at a disadvantage. By examining only Egyptian sources first-hand, he was not adequately translating Scripture or considering translations by other Egyptologists, and his maps of the Delta ignored "the primary laws of hydrography." If Brugsch had synthesized all the available sources, "he might have been prevented from now occupying, in the face of the educated world, a position which is so entirely inconsistent with the fame of a careful antiquary." From this perspective, the work of eminent long-distance Egyptologist Samuel Birch was far more preferable. Birch never travelled to Egypt, but from his location at the British Museum, he could thoroughly analyse all the available sources.[184] Brugsch was not alone in identifying himself as a "subordinate" first-hand observer in Egypt to "professional historians" like Birch in the metropole who engaged in chronological synthesizing. This period in semi-colonial British Egyptology saw conflicting opinions towards locality and expertise. While many still believed theoretical analyses were best done outside of Egypt, the identities of first-hand observers were becoming more relevant, and fieldwork itself was emerging as a new route to demonstrating Egyptological expertise.

This chapter continues the discussion of what I have termed long-distance archaeology. In the previous chapter, we saw how long-distance investigations operated in the 1850s and early 1860s. Alice Kehoe shows that until the mid-1870s archaeological work in Britain was almost entirely focused on the collection and comparison of artefacts in the metropole, rather than the observation of objects *in situ*. Notable figures in British prehistoric archaeology, such as Daniel Wilson, John Lubbock, and John Evans, relied on collections produced by others and generally made fieldtrips only briefly, to visit sites rather than to direct sustained excavations. According to Gavin Lucas too, the most authoritative knowledge was made "not by those who did go to the field, but by those who largely stayed at home and examined material collected by others, whether this came from abroad, or closer to home."[185] Horner and Hekekyan's long-distance fieldwork was typical of these earlier practices, not only because they too were concerned with the problem of human antiquity, but because Hekekyan's observations, documentation, and collections provided indispensable data for Horner's geochronological analysis. Both were concerned with accurately recording alluvial strata but only to the point that stratigraphy could support their theories about the artefacts deposited within sedimentary layers. Their principal focus was not the field site.

This approach began to shift during the long-distance archaeology of the 1870s and early 1880s as the field site itself was bearing increasing importance. Gavin Lucas argues that these

---

183 [Philip Smith], 'Brugsch's History of Egypt - Hieroglyphic and Cuneiform Interpretation', *Quarterly Review* 147, no. 294 (April 1879): 432–33.

184 [Francis Conder], 'Brugsch's Egypt under the Pharaohs', *Edinburgh Review* 150, no. 307 (July 1879): 77–111.

185 Alice B. Kehoe, *The Land of Prehistory: A Critical History of American Archaeology* (New York and London: Routledge, 1998), chapters 11-4, esp. 37; Lucas, *Critical Approaches to Fieldwork*, 4.

developments were ultimately so gradual that even late nineteenth-century excavators, such as Schliemann, Pitt Rivers, and Petrie, who promoted careful field-recording and first-hand observations, were still focused primarily on the retrieval of artefacts.[186] However, Lucas misses a crucial link between mid-and late century archaeological fieldwork by concentrating only on the theoretical concerns of these well-known archaeologists and on none of the individuals in their networks or involved in their excavations. A division of labour continued to exist between "fieldworkers" and "theorists"—those who gathered objects and those who interpreted and wrote about them. However, these barriers were starting to dissolve as the practices of field-witnessing, and perceptions about who could make a reliable field-witness, was transitioning.

In this chapter, I consider that during the 1870s, the field site itself, and first-hand observations of the field, were becoming more relevant, as practitioners of long-distance archaeology became actively concerned with managing multiple testimonies and mapping archaeological ruins. First, I provide an argument for why "long-distance archaeology" is a more beneficial term than the "armchair archaeology" more commonly associated with this period. What then follows is a little-known case of long-distance archaeology at Tell el-Yahudiyeh, Lower Egypt, between 1870 and 1882. Investigations were directed from London by architect Thomas Hayter Lewis and carried out through a correspondence network of colleagues in Britain, explorers and collectors in Egypt, and Cairo-based Scottish medical doctor turned archaeological informant James Grant. These activities culminated with the publication of the first map of Tell el-Yahudiyeh in 1880, which was a powerful visual tool for demarcating the archaeological field site and for intellectually claiming it from afar. Tracing the circulation of archaeological knowledge across Lewis's network, I show how the relationship between locality and expertise was changing during the 1870s, as rhetorical and practical distinctions between "informant" and "theorist" began to disintegrate. Situating long-distance archaeology within contemporaneous expeditionary sciences, I establish how concerns for managing knowledge at a distance, trustworthiness, and credible witnessing significantly shaped the shift to first-hand fieldwork in the following decades.

Beyond the Armchair

The separation between spaces of fieldwork and analysis—or more accurately, the *insistence* on this separation—was a quintessential characteristic of Victorian Egyptology before direct colonial control after 1882. Similar divisions of labour between fieldworker and scholar were common

[186] Lucas, *Critical Approaches to Fieldwork*, 18–32.

across nineteenth century geographers, anthropologists, and naturalists.[187] Historians of these related "expeditionary sciences" (to borrow Lawrence Dritsas's term) normally refer to this as armchair scholarship or, sometimes, armchair science.[188] The term "armchair scholar" conjures up an image of an idle gentleman who stays in the comfort of his recliner in the pursuit of knowledge, relying on classical texts and second-hand testimonies, and requesting artefacts to be brought to him. Efram Sera-Shriar has shown that armchair anthropology was rarely a passive pursuit, but actively involved "collecting data, analysing its significance and meaning, and representing the results through various forms of media."[189] Even so, applying the Victorian armchair to Egyptology is problematic. The term inherently privileges the British metropole over the "contact zone" of colonial encounters, in this case Egyptian field sites.[190] Too much focus on the armchair obscures all the people and places involved in the production of field-knowledge during this period.

Metropole-based scholars of ancient Egypt never worked exclusively from their armchair. One vivid description of Samuel Birch's office in the British Museum suggests a small, packed, bustling space of research — with no armchair:

> The room in the British Museum in which [Birch] worked was entered through a door in the south-west corner of the Nineveh Gallery….and was one of the additions made to the buildings when the architect realized that permanent officials needed accommodation on the premises. It was built over a section of basement containing apparatus connected with the heating of the Galleries, and the weird sounds which accompany the passage of hot water and steam through pipes, and the hissing of escaping steam, could be heard distinctly through the floor... The room had two windows, one on the north side, which gave a good light, and one on the west side, which faced and was close to a brick wall. Before the former stood a writing table at which students could sit and work, and before the latter a long low case, with a sloping top, which was much used by Birch when consulting the "ponderous tomes" of Rosellini, Champollion, and Lepsius. On the south side was a fireplace with a broad marble mantelpiece, on which stood a metal candlestick and candle, letter scales, a bottle of water and a glass, a dispatch box for official papers, agenda slips, etc., and a few directories, English and foreign. In the summer a float-light burned in the fender (it was used in sealing letters), and in the winter a grate held a fire, of course. Over the mantelpiece hung a drawing of the "Coffin of Antef," and a large-faced clock, beaming the date 1857. On each side of the fireplace stood an upright narrow, polished oak bookcase, and four other larger cases of similar pattern stood in other parts of the room. The floor was nearly covered by a very old and discoloured much-patched carpet, and in the centre of it stood another writing

[187] Dritsas, 'Expeditionary Science'; Dane Kennedy, 'British Exploration in the Nineteenth Century: A Historiographical Survey', *History Compass* 5, no. 6 (2007): 1888; Sera-Shriar, 'What Is Armchair Anthropology?'; Kuklick, 'After Ishmael', 53; Dorinda Outram, 'New Spaces in Natural History', in *The Cultures of Natural History*, ed. Nicholas Jardine, James A. Secord, and Emma Spary (Cambridge: Cambridge University Press, 1995), 249–65.
[188] Robert E. Kohler, *Landscapes and Labscapes: Exploring the Lab-Field Border in Biology* (Chicago and London: University of Chicago Press, 2002), 1–2.
[189] Sera-Shriar, 'What Is Armchair Anthropology?', 27.
[190] Pratt, *Imperial Eyes: Travel Writing and Transculturation*, 8.

> table at which Birch worked. In this room, which only measured 18 feet by 16 feet, the whole of the business of the Department had to be transacted.[191]

These scholars moreover frequented libraries, storage and display spaces in museums, society meetings, dinner parties, and more. Some even travelled to Egypt on occasion. Thus, the armchair does not adequately reflect the full range of practices involved in the production of Egyptological knowledge even *within* the metropole.

The term "long-distance archaeology" avoids these pitfalls. It refers to a broad set of practices, routine in mid-Victorian Egyptology, whereby scholars based in Britain, from a plethora of backgrounds, relied on correspondence networks and field records to communicate information across national borders. Long-distance archaeology shifts focus away from the armchair, taking a geographical approach to emphasize the active management of knowledge across many spaces, and the inclusion of different types of practitioners. It is a useful concept to track how observational, recording, visualization, and communication practices developed alongside the professionalization of the discipline in Britain and in response to changing Anglo-Egyptian colonial relations. Long-distance Egyptologists were always focused on the retrieval, classification, and comparison of artefacts. They were equally interested in collecting sketches, tracings, and descriptions of objects and architecture that remained in the field. Therefore, it was generally more important to render the field mobile through field records than it was to actually go "to the field" themselves. Direct observation of the field was not considered crucial to their assertion of credible archaeological claims. As seen in chapter 1, tensions generally arose over *who* was experiencing the field directly. The credibility of field-based knowledge was inseparable from the identities of those who observed and recorded on others behalves. Increasingly, informants could claim their own Egyptological authority based on their field experiences, sometimes rivalling their collaborators in Britain.

Long-distance investigations relied on a division of labour between informant and theorist, therefore much of the analysing, systemizing, debating, and writing about the Egyptian field site took place outside of Egypt, in London. But this was rarely limited to any armchair. Many interested in the antiquities, chronology, and languages of ancient Egypt did travel abroad (increasingly so throughout the nineteenth century), but the vast majority of the interested public elite did not. Privileged knowledge was instead informed through "personal networks" made from close friendships, familial ties, and institutional interactions.[192]

In particular, many of the earliest Egyptological societies served as important spaces of knowledge exchange. The Syro-Egyptian Society of London, active between 1844 and 1870,

---

[191] Ernest Alfred Wallis Budge, *By Nile and Tigris: A Narrative of Journeys in Egypt and Mesopotamia on Behalf of the British Museum between the Years 1886 and 1913*, vol. 1 (London: John Murray, 1920), 21–22.
[192] Riggs, 'Discussing Knowledge in the Making', 131.

brought travellers together with a host of thinkers, including writers, philologists, biblical scholars, Unitarians, geologists, and astronomers.[193] Most of their members, such as Samuel Sharpe, who was very active in the society, never travelled to Egypt or the Levant. By attending meetings, they could get hear, second-hand, the observations of those who had. This set a precedent for the meetings of the Society of Biblical Archaeology (SBA), which absorbed the earlier society's members (as well as those of the Anglo-Biblical Institute, the Chronological Institute, and the Palestine Archaeological Society) when it was founded in 1870 by Samuel Birch and artist, explorer, and "Hieroglyphicist" Joseph Bonomi.[194] Most British Egyptologists, biblical scholars, Assyriologists, and archaeologists interested in the Near East joined the society, as did anthropologists such Edward Burnett Tylor, continental Egyptologists such as Auguste Mariette and Karl Richard Lepsius, and members of the clergy and parliament. During the 1870s, the SBA was an important London space to exchange, circulate, and disseminate new knowledge claims about Egypt and the Near East.

Samuel Birch, as founder and president of the society, made a career using long-distance practices. He was a renowned philologist learned in Chinese and Hebrew, cuneiform inscriptions, Egyptian hieroglyphs and short-hand hieratic. He was well-positioned as a keeper of antiquities at the British Museum, a prolific editor and writer of translations, grammars, museum catalogues and guides. According to Birch's successor Wallis Budge,

> Students of all kinds flocked to Dr. Birch, partly because of his great and varied knowledge…His position was unique, and his authority unquestioned, because he was the only servant of the Trustees of the British Museum who was intimately acquainted with the results of the excavations made by the French and English explorers in Western Asia and Egypt, and because he had the charge of the Oriental Antiquities of the British Museum, and had practical knowledge of them.[195]

Birch was perhaps the most established British Egyptologist of his era—yet he never travelled to Egypt. Collectors and explorers who had been to Egypt commented on this, but often out of amusement rather than genuine criticism. Sir John Gardiner Wilkinson, despite spending years working in Egypt, claimed he personally "had no special linguistic ability and never professed to be an Egyptologist." He viewed Birch as the utmost authority on all Egyptological matters, yet Budge recalled that:

---

[193] Gange, *Dialogues with the Dead*, 102, 111–17.

[194] F. Legge, 'The Society of Biblical Archæology', *Journal of the Royal Asiatic Society* 51, no. 1 (1919): 25; C.F. Beckingham, 'The Society of Biblical Archaeology, 1870-1919', in *The Royal Asiatic Society: Its History and Treasures*, ed. Stuart Simmonds and Simon Digby (Leiden and London: Published for the Royal Asiatic Society by E.J.Brill, 1979), 155.

[195] Budge, *By Nile and Tigris: A Narrative of Journeys in Egypt and Mesopotamia on Behalf of the British Museum between the Years 1886 and 1913*, 1:17–19.

> …. on more than one occasion [Wilkinson] advised me to get to Egypt as soon as I could, saying that no man who had not seen that country could ever hope to understand its history. With a laugh he often told Birch that if he had had a knowledge of Egypt at first hand, he would have been the "perfect Egyptologist," and year by year he urged him to take if it were only a holiday in that country before he became too old. Birch did not take advice, alas![196]

Greville Chester also teased Birch on his belief "that the best way to get Egyptian things is for you to sit still!"[197]

Birch may have never been to Egypt, but his daily work was anything but passive. His small office was constantly swarming with students, colleagues, and visitors. He wrote reports, mentored young scholars, discussed purchases, negotiated prices with collectors, catalogued objects in the collection, supervised the cleaning and mounting of objects, drafted display labels, and researched and wrote extensively about the antiquities in the museum's care. He was often the first point of call for naturalists, scholars, and the general public. During the 1870s, "there was no place where the general public could apply for information on Egyptology and Assyriology except Birch's Department; as a result, his visitors were legion, and his correspondence was great."[198]

It was generally through these corresponding relationships that Birch was able to acquire any new source material not at already at his fingertips. When Petrie first arrived in Egypt in 1880, Birch begged him "to pack and send to him a box of pottery fragments from each great town, on the chance that from the known history of the sites some guess could be made as to the age of the objects."[199] The assumption was that object analysis could be performed outside of the field, based on previous knowledge from books and antiquities. Between the 1840s and 1860s, Birch relied most heavily on Joseph Bonomi, who has been described as a "serial collaborator" with other long-distance archaeologists. Birch asked him to collect antiquities and convey information from Cairo to London about, for instance, the work of other explorers in Egypt, such as Lepsius and Wilkinson.[200] He also incessantly requested drawings, translations, and descriptions, which the artist and explorer frequently delivered.[201]

The important scrutinization of field-based knowledge most often took place at "home," rather than Egypt. Lecture halls and meetings of learned societies were important arenas of scientific performance and debate, in Egyptology and more generally in the natural sciences. More esoteric spaces, such as medical museums, operating theatres, playhouses, pharmacies and drawing

---

196 Ibid., 1:25–26.
197 Chester to Birch, 26 December 1871, 1111, Middle East Library, British Museum.
198 Budge, *By Nile and Tigris: A Narrative of Journeys in Egypt and Mesopotamia on Behalf of the British Museum between the Years 1886 and 1913*, 1:26.
199 Petrie, *Methods & Aims*, 4.
200 Gange, *Dialogues with the Dead*, 90–92.
201 Extensive correspondence between Birch and Bonomi is in Cambridge University Library, Add.9389/2/B/44-152.

rooms were also stages of spectacle and display in nineteenth century mummy unrollings. The most famous of these practitioners, surgeons such as Augustus Bozzi Granville, who described the first mummy autopsy at the Royal Society in 1825, or Thomas Pettigrew who popularized the practice, never went to Egypt but relied on others to bring back specimens. Pettigrew acquired his first batch of mummies from an auction of antiquities collected by the British Consul General in Egypt John Barker. He also corresponded with explorers Robert Hay, Joseph Bonomi, Edward William Lane, and Wilkinson on Egyptological matters, such as the meaning of hieroglyphic texts accompanying his mummies. Many of these men, including a young Birch, attended Pettigrew's demonstrations.[202] Long-distance Egyptologists never worked exclusively from their studies, they attended meetings, lectures, exhibitions, and other social arenas where knowledge was exchanged. Some went to Egypt on occasion, although much of the knowledge they reported came second-hand.

Locating, Placing, and Mapping the "Mound of the Jews"

The practice of long-distance archaeology, and its transformation during the 1870s, is well illustrated by the quest for "sacred geography," and the collection of local place names, which throughout the long nineteenth century remained among the most common activities in Egyptology. Places with any connection to the exodus route or the "land of Goshen" were particularly sought-after sources for antiquities.[203] One such little-known site was a mound known as Tell el-Yahudiyeh, or "mound of the Jews."[204] Populated at various times during the pharaonic period, it was known by the Greek Leontopolis and became known as the location of a temple built by the exiled Jewish priest Onias in the second century BCE, modelled after the second temple in Jerusalem. In *Antiquities of the Jews* and *The Jewish War*, Josephus wrote about Onias's replica temple and an accompanying Jewish settlement, both of which were abandoned in the first century AD.[205] The second century geographer Ptolemy placed the site somewhere east of the Pelusiac

[202] Gabriel Moshenska, 'Unrolling Egyptian Mummies in Nineteenth-Century Britain', *British Journal for the History of Science* 47, no. 3 (2014): 451–77; Gabriel Moshenska, 'Thomas "Mummy" Pettigrew and the Study of Egypt in Early Nineteenth-Century Britain', in *Histories of Egyptology: Interdisciplinary Measures* (London and New York: Routledge, 2015), 201–14; Riggs, *Unwrapping Ancient Egypt*, 49–76.

[203] For a useful overview of the "sacred geography" tradition in nineteenth-century archaeology, see Michael Ledger-Lomas and David Gange, 'Introduction', in *Cities of God: The Bible and Archaeology in Nineteenth-Century Britain*, ed. David Gange and Michael Ledger-Lomas (Cambridge: Cambridge University Press, 2013), 1–38.

[204] Tell el-Yahudiyeh is (now known to be) located near the village of Shibin al Qanatir in Egypt's eastern Nile Delta, approximately 30km north of Cairo. Alternative English, French, and German spellings from the nineteenth century are Yahudiya, Yahudiyah, Yahudiyyah, Yahûdiyeh, Yahûdîya, Yahoodeh, Yahoodeyeh, Yehóod, Yeuhood, Yehoodéëh, Jahoudi, Jahudija, Ihud, and Ihûd.

[205] Flavius Josephus, *Josephus: The Jewish War, Books I-III*, trans. H.S.J. Thackeray, vol. 2 (London: Heinemann Ltd., 1926), 19; Flavius Josephus, *Josephus: Jewish Antiquities, Books XII-XIV*, trans. Ralph Marcus, vol. 7 (London: William Heinemann Ltd., 1943), 256–63.

branch of the Nile and gave it the toponym Oniou, after Josephus's account of Onias.[206] However, the exact location of these remains were gradually lost over time.

Several late eighteenth-century European explorers became interested in finding Onias's temple and placing it geographically through visual and written descriptions. Travelling through Egypt between 1737 and 1741, the English clergyman and antiquarian Richard Pococke identified some temple ruins close to Heliopolis as those built by Onias (**Figure 2.1**).[207] The Danish cartographer Carsten Niebuhr also passed through the eastern Delta region as part of the Royal Danish Arabia Expedition in 1761. His travelogues credited the identification of the site to local Egyptian knowledge of ancient Jewish settlements in the region.

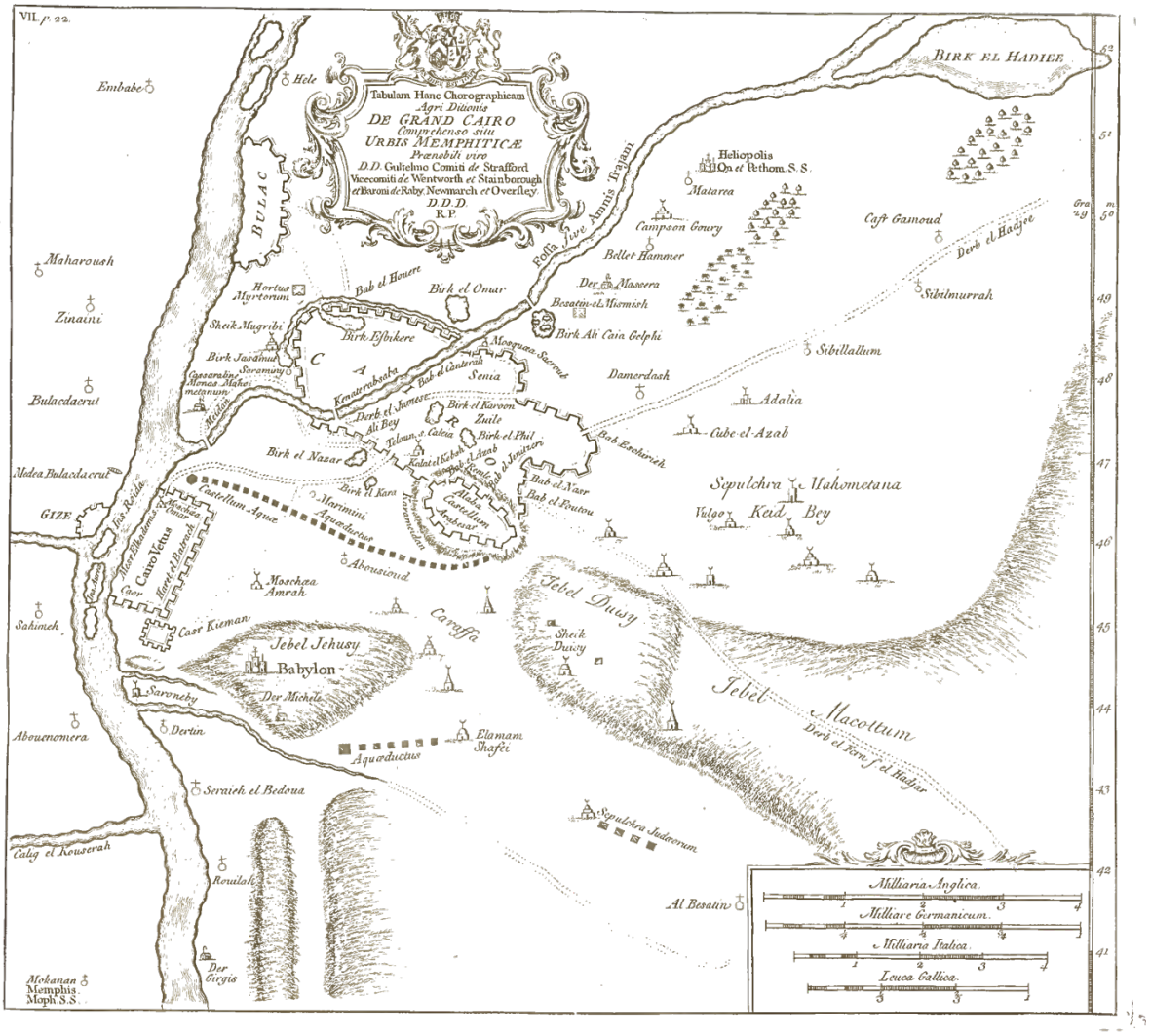
> About two German miles to the northeast of Heliopolis is a great heap of ruins of some ancient city that the Arabs call Tell el Ihûd, i.e. mound of the Jews, or Turbet el Ihud, i.e. graves of the Jews. It is beyond question that the Land of Gosen was in this part of Egypt. Perhaps here lay the famous Temple of the Jews built by Onias, and not in Heliopolis, as is commonly thought. So it should be possible to find Jewish monuments here. I saw it only on my departure from Cairo and, to be sure, at a distance of two leagues. I was told there were two villages nearby, named Shebin and Miniet Demata.[208]

Niebuhr also described ethnographic work by another member of the expedition, Peter Forsskål, who was documenting different Arabic dialects. Forsskål had heard accounts from villagers of Kaidbey near Cairo about several more abandoned mounds nearby that Jews had reputedly inhabited in antiquity, including Tartur l'Yehudiae, Qabur l'Ihud bemderuthe, and Qalat rai, which they "believed to have existed at the time of Moses."

The search for Tell el-Yahudiyeh continued throughout the nineteenth century. L.M.A. Linant de Bellefonds, a Saint-Simonist and chief engineer of Egypt's Public Works, identified a mound during a French mapping expedition in 1825 as Tel-Yeuhoud or Monticule des Juifs. Linant de Bellefonds reasoned that Onias specifically chose this location to build a temple because it was "an existing or maybe even ruined city in which Jews were already living."[209] Two decades later British antiquarian John Gardiner Wilkinson authored the first detailed description of Tell el-Yahudiyeh in the first edition of *Murray's Handbook for Travellers in Egypt* (1847). Citing Niebuhr,

---

[206] Manfred Bietak, 'Tell El-Yahudiya', in *Encyclopedia of the Archaeology of Ancient Egypt*, ed. Katherine A. Bard (New York: Routledge, 1999), 964.
[207] Richard Pococke, *A Description of the East and Some Other Countries. Vol 1: Observations on Egypt* (London: Printed for the author by W. Bowyer, 1743), 22.
[208] Carsten Niebuhr, *Reisebeschreibung Nach Arabien Und Andern Umliegenden Ländern*, vol. 1 (Copenhagen, 1774), 100; Carsten Niebuhr, *Travels through Arabia, and Other Countries in the East, Performed by M. Niebuhr, Now a Captain of Engineers in the Service of the King of Denmark*, trans. Robert Heron, vol. 1 (Edinburgh: R. Morison and Son, 1792), 56; Roger H. Guichard Jr., *Niebuhr In Egypt: European Science in a Biblical World* (Cambridge: The Lutterworth Press, 2014), 151–53.
[209] Louis Maurice Adolphe Linant de Bellefonds, *Mémoires Sur Les Principaux Travaux d'utilité Publique Exécutés En Egypte Depuis Les Temps de La plus Haute Antiquité Jusqu'à Nos Jours* (Paris, 1873), 142.


VII. f. 22.
Tabulam Hanc Chorographicam
Agri Ditionis
DE GRAND CAIRO
Comprehenso situ
URBIS MEMPHITICÆ
Præmobili viro
D.D. Gulielmo Comiti de Strafford
Vicecomiti de Wentworth et Stainborough
et Baroni de Raby Newmarch et Overssley
D.D.D.
R.P.
BIRK EL HADIEE
Heliopolis
On et Pethom. S. S.
Matarea
Campoon Goury
Caft Gamoud
Derb el Hadjee
Sibilmurrah
Sibillallum
Adalia
Cube el Azab
Sepulchra Mahometana
Vulgo Keid Bey
Damerdash
Bellet Hammer
Der Maseera
Besatin el Mismish
Birk Ali Caia Golphi
Birk el Onar
Bab el Hoüere
Hortus Myrtorum
Birk Esfinkere
Birk Jasdinus
Sheik Mugribi
Senia
Birk el Karoon
Zuile
Birk el Phil
Birk el Nazar
Birk el Kars
Morimini
Aqueductus
Aboufiroud
Moschea Amrah
Caraffa
Jebel Dussy
Sheik Dussy
Jebel Jehusy
Babylon
Der Michel
Saroneby
Dertin
Elamam Shafei
Aquæductus
Serraieh el Bedoua
Sepulchra Judæorum
Jebel Macottum
Derb el Ferni el Hadjar
Caliq el Kouserah
Roulah
Der Girgis
Al Besatin
Milliaria Anglica
Milliare Germanicum
Milliaria Italica
Leuca Gallica
Embabe
Hele
Maharoush
Zinaini
Bulacdaerut
Medea Bulacdaerut
GIZE
Sahimeh
Abouenomera
Mokanan
Memphis
Moph. S.S.
BULAC
Fossa five Amnis Trajani
Cairo Vetus
Caer Kreman
Castellum Aquæ
Mosch. Amrah
Mosch. Omar
Mosch. Mahomet
Mosch. Mahomet Metanuyn
Mosch. Sultan Barkuk
Mosch. Sultan Hassan
Mosch. Sultan Kalaun
Mosch. Sultan Gauri
Mosch. Sultan Gauri
Mosch. Sultan Kaitbai
Mosch. Sultan Kaitbai
Mosch. Sultan Kaitbai

It was local *fellahin* digging for *sebakh* (fertiliser), who prompted the first excavation of the mound in 1870, which was directed by Émile Brugsch-Bey, brother to Heinrich. Émile was perusing an antiquities market in the village of Shibin el-Qanater when he came across some colourful tiles. He was told they came from the nearby ruins of Tell el-Yahudiyeh and was pointed in their direction. He collected more tiles and returned to Cairo to show them to Auguste Mariette, who granted Émile a permit to excavate the site with fifty Egyptian labourers at his disposal. Superficial excavations began in autumn 1870 and mostly consisted of cleaning the area of modern debris to reveal underlying architecture. During a two month stay, fieldworkers found more decorated tiles and a few scattered statues, most of which were brought back to the Boulaq museum in Cairo. Émile Brugsch's excavation report "On et Onion" was delayed sixteen years because he worried that his conclusion would be attacked. He suggested that the mound known as Tell el-Yahudiyeh was actually Heliopolis and *not* the location of Onias's temple. Émilie could not differentiate between "On" (Heliopolis) and "Onion" (Tell el-Yahudiyeh), both of which were described by classic authors as Leontopolis.[211] He hoped that his report would invite others "to determine exactly the geographical position of Egypt's oldest religious capital." One additional clue about Tell el-Yahudiyeh's location came in 1872, when collector Selima Harris, daughter of Anthony Charles Harris, sold a papyrus her father had purchased in Cairo to the British Museum, quickly dubbed the Great Harris Papyrus. The papyrus contained what Brugsch and others believed was the oldest surviving Egyptian reference to the city, identifying it as Naytahut, or "the estate of the temple of Ramesses III…north of Heliopolis."[212]

The initial search for Tell el-Yahudiyeh was about confirming its exact location on a map. Wilkinson's approach was more topographical and become a dominant trend in the period. Mapping an archaeological site often involved surveying, rather than actually digging, and generally referred to the practice of visually tracing architectural remains. It was therefore not unusual that the first British practitioner to investigate Tell el-Yahudiyeh thoroughly was architect Thomas Hayter Lewis. Lewis was vice-president of the Royal Institute of British Architects (RIBA) and Professor of Architecture at University College London (UCL). Lewis specialised in "Oriental and Biblical" architectural history. The boundaries between antiquarianism, archaeology, architecture, and other disciplines dealing with the past were particularly fluid in this period. Thus, Lewis was also a fellow of the Society of Antiquaries of London and a contributing member of several archaeological societies. He lectured on a wide range of topics relating to ancient and medieval

[211] Josephus referred to Onion as "Leontopolis of the Heliopolitan Nome"
[212] Samuel Birch, *Facsimile of an Egyptian Hieratic Papyrus of the Reign of Ramses III, Now in the British Museum* (London, England: Printed by Order of the Trustees, 1876), 15; Thomas Hayter Lewis, 'Tel-El-Yahoudeh (the Mound of the Jew)', in *Transactions of The Society of Biblical Archaeology*, vol. 7 (London, 1882), 185; Edouard Naville and Francis Llewellyn Griffith, *The City of Onias, The Antiquities of Tell El Yahûdiyeh, and the Mound of the Jew*, Egypt Exploration Fund Publications 7, 1890, 21.

architecture and building materials, including "the science of geology."[213] Lewis also lectured and published extensively on Egyptian architecture and his lessons at UCL ended with bi-annual trips to see the collections at the British Museum, where his students received private tours from Birch.[214] As no formal Egyptological training programs had been yet established in Britain, Lewis's lessons on ancient Egyptian architecture were perhaps the only university lectures available on the subject. Lewis asserted his authority in the scholarly study of Egypt, in part, through his pedagogical role.

As both a respected architect, consultant, and scholar, Lewis used his interests in ancient architecture to inform his practice; likewise, his architectural practice asserted his authority as an Egyptological expert. Among many projects in London, Lewis started the restorations to the church of St Bartholomew the Great and designed extensions to UCL in the Slade and Physiological Schools. He was best known as the architect of the Royal Panopticon of Science and Art in Leicester Square (**Figure 2.2**). Opened on 18 March 1854 (three months before the Sydenham Crystal Palace), it was initially described as a "new Institution for Scientific Exhibitions, and for Promoting Discoveries in Arts and Manufactures." Lewis's very first lecture at RIBA on 18 April 1853 described his designs as what he termed an "Egypt-Saracenic" style meant to be a "novelty." They were an homage to "the mosques of Zalaon and El Moyed" in Cairo, which Lewis visited during his Grand Tour in 1842, and "copied with such modifications as are rendered necessary by modern European habits."[215] As Edward Ziter notes, patrons of the Panopticon "could examine the achievements of Western technology in an Eastern pleasure dome."[216] Some years later, it appears the Khedive of Egypt (presumably Mohamed Sa'id Pasha) was so impressed with the building that he commissioned Lewis to design a replica in Cairo. Lewis "prepared and

[213] Lecture by Thomas Hayter Lewis entitled 'Science of geology', read at the RIBA on 17 July 1865, Lewis MSS, ED/7.2.2. ff. 158-205, Royal Institute of British Architects (hereafter Lewis MSS).
[214] Thomas Hayter Lewis, "Lecture Notes and Notes on Students," 1865, MS ADD.33, UCL Special Collections; Correspondence between Thomas Hayter Lewis and Samuel Birch in 1872, 3776-3783, 3784-3787, 3790, Middle East Library, British Museum; Thomas Hayter Lewis, 'Notes on Ancient and Modern Egypt', in *Sessional Papers Read at the Royal Institute of British Architects, 1875-76* (London: Published at the rooms of the Institute, 1876), 31–44; Thomas Hayter Lewis and George Edmund Street, 'Egyptian Architecture', in *Encyclopaedia Britannica*, American Reprint (Philadelphia: M. Somerville, 1891).
[215] Thomas Hayter Lewis, 'A Description of the Royal Panopticon Institution, with Details of the Construction and Decoration', *Transactions of the Royal Institute of British Architects* 3 (1853): 1–8.
[216] Edward Ziter, *The Orient on the Victorian Stage* (Cambridge: Cambridge University Press, 2003), 119.

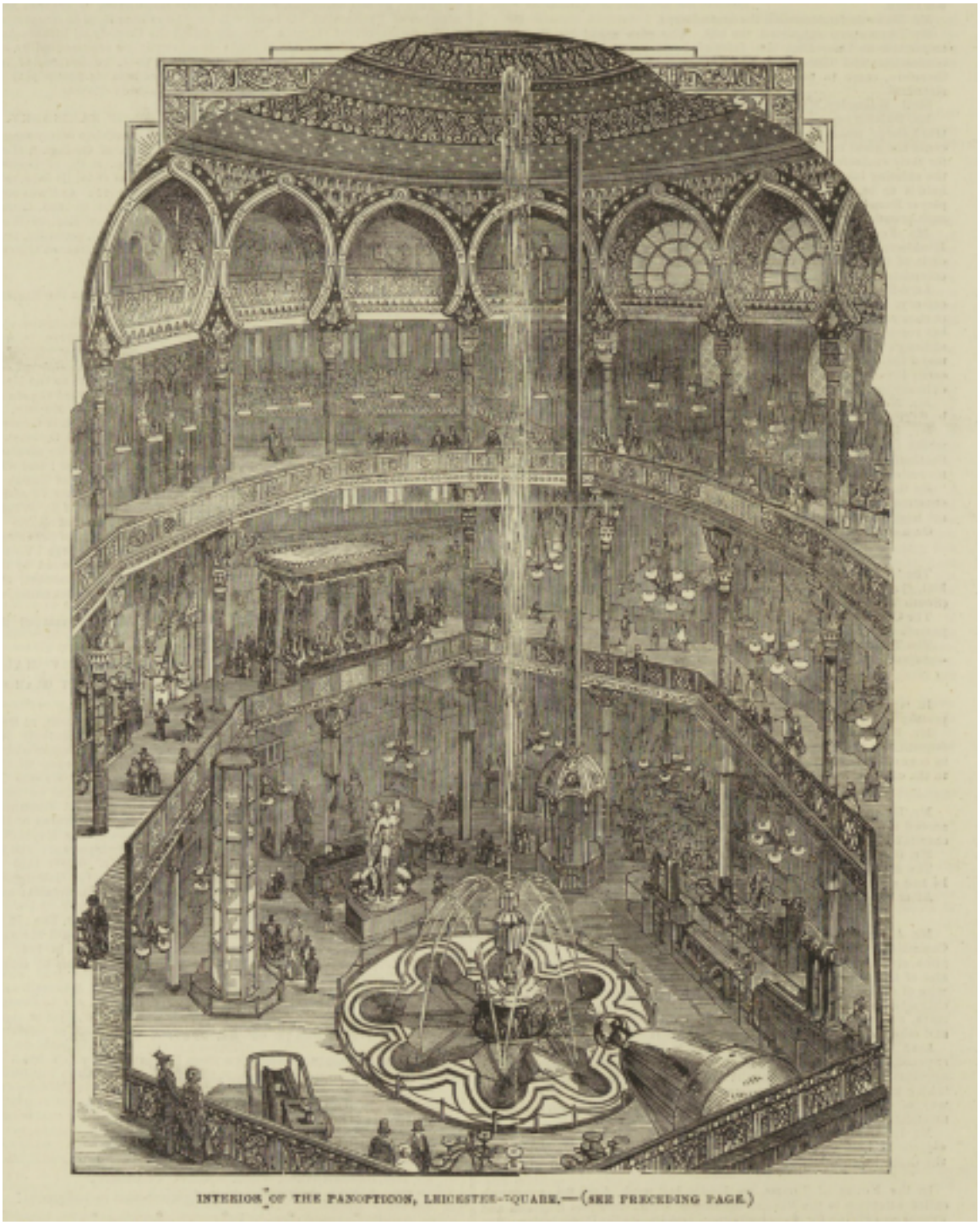


Figure 2.2. Interior of the Royal Panopticon of Science and Art, designed by Thomas Hayter Lewis. 'The Panopticon, Leicester Square.' *Illustrated London News*, 18 March 1854, 235.

sent out to Egypt complete with decorative drawings."[217] For reasons unclear, the replica building never came to fruition. If it had, it would have been a fitting example of the panopticim described by Timothy Mitchell in the colonisation of Egypt, and of the Islamic architectural revival described by Donald Reid that "began less as a locally inspired renaissance than as another fashionable European import.[218]

Lewis's approach towards ancient architecture was holistic in that he believed that material remains had to be drawn and studied together with contemporaneous artefacts. He also insisted that in order to study this topic, "one must, as a general rule, be able to *draw* it."[219] Many Europeans who travelled through Egypt in the nineteenth century were equally concerned with describing and drawing what they observed. They used visual techniques to create an ostensibly objective picture of the "the whole" of the East.[220] British explorers in particular utilized this skill, producing the first architectural topographic plans of many Egyptian sites. Joseph Bonomi, Robert Hay, James Haliburton, and David Roberts all had architectural experience or training as artists and were occupied primarily with sketching the ancient monuments during their expeditions.[221] While Lewis did not draw the ruins of Tell el-Yahudiyeh himself, his architectural background shaped his concern for its accurate rendering on paper. He relied on others' observations and drawings to become a virtual witness to Tell el-Yahudiyeh. The visual records of the site, and the people who drew them, were key to asserting his own archaeological expertise.

Lewis had been to Egypt in 1875 but did not visit Tell el-Yahudiyeh. He could not return because of his teaching responsibilities at UCL and his administrative duties at RIBA. He instead relied on the retrieved objects, first-hand testimonies, and field records of several collectors and explorers who had previously demonstrated their trustworthiness. One of these informants was Greville John Chester, an Oxford graduate and ordained priest. From 1865, Chester embarked on a career travelling abroad, spending his winters in the Mediterranean for his health (as was common for Victorian travellers). He habitually resided in Egypt and in Palestine where he worked with the Palestine Exploration Fund (PEF) and established himself as an antiquities collector. When Petrie first met Chester in 1881, it was already the collector's thirty-eighth visit to Egypt.[222] Chester routinely wrote to the editor of the London-based periodical the *Academy*—by then a public forum

---

[217] J. Tavenor Perry, 'The Late Thomas Hayter Lewis, F.S.A.', *Journal of the Royal Institute of British Architects*, 14 January 1899, 128.
[218] Mitchell, *Colonising Egypt*, 35; Reid, *Whose Pharaohs?*, 240.
[219] Thomas Hayter Lewis, *The Fine Arts and Their Connection with Education : Being the Inaugural Lecture Delivered at University College, London, on 9th October, 1865* (London: Walton and Maberly, 1865).
[220] Mitchell, *Colonising Egypt*, 21–23.
[221] For instance, Joseph Bonomi, *Egypt, Nubia, and Ethiopia* (London: Smith, Elder and Co., 1862); Robert Hay, *Illustrations of Cairo* (London: Tilt and Bogue, 1840); James Haliburton, *Excerpta Hieroglyphica* (Cairo: Privately printed, 1825); David Roberts, *The Holy Land, Syria, Egypt and Nubia*, vol. 3 (London: Day & Son, 1842); David Roberts, *Egypt and Nubia*, 3 vols (London, 1846)., and hundreds of unpublished sketches, drawings, and squeezes.
[222] W.M.Flinders Petrie, *Seventy Years in Archaeology* (London, England: Sampson Low, Marston & Co., Ltd., 1931), 22.

for antiquities and archaeological news—updating readers about his latest acquisitions and on others' discoveries in Egypt. He purchased and sold pharaonic objects to the Louvre, Boulaq Museum in Cairo, Fitzwilliam Museum in Cambridge, South Kensington Museum in London, and the Ashmolean Museum at Oxford, where he put together the department's first Egyptian catalogue in 1881.[223] However some of his largest acquisitions were sold to the British Museum. According to Birch's successor Wallis Budge, Chester's skills were unique.

> [His] good classical education and naturally good antiquarian instinct enabled him to acquire many valuable objects at very moderate prices…each year he brought more than the last, and each year the Keepers [of the British Museum] increased their purchases, and thus, little by little, Chester became a source of supply, more especially for the Egyptian Collection.[224]

Chester gathered several hundred small objects during routine visits to Tell el-Yahudiyeh between 1870 and 1874. He presented the collection from his first visit to Birch for purchase. The collection included "the most remarkable series of tiles" from a palace dating to reign of Ramses III.

> The tiles are of a remarkable and novel character made of porcelain or fayence in different colours having [sic] or inlaid work the name and titles of Ramesses III, and the figures of Asiatic or Negro prisoners subjected to his armies. These are so important that their acquisition is most desirable as showing not only new applications of the use of tiles of Egypt but also of the fabric of tiles not hitherto known or adopted. Such have not previously been seen nor would probably be affordably acquired.[225]

Birch ultimately offered Chester a generous £124 for 660 specimens from Tell el-Yahudiyeh, 350 of which he immediately catalogued in the Department of Oriental Antiquities acquisitions registry.[226] Biblical scholar Samuel Sharpe, a close friend of Birch who had previously published descriptions of the museum's Egyptian collection, was the first to analyse the objects. He wrote in the *Athenaeum* that the collection actually contained decorative tiles from two distinct periods. Some bore the name of Ramses III and were assumed to be from an older Egyptian temple at the site, and some appeared to be non-Egyptian in style and were assumed to be from Onias's Hellenistic temple.[227] The relative dates of those two structures were separated by approximately one thousand

---

[223] Greville John Chester, *Catalogue of the Egyptian Antiquities in the Ashmolean Museum, Oxford* (Oxford: Parker and Co., 1881).
[224] Budge, *By Nile and Tigris: A Narrative of Journeys in Egypt and Mesopotamia on Behalf of the British Museum between the Years 1886 and 1913*, 1:84, n.1.
[225] Samuel Birch, "Report respecting offers for purchase," 8 June 1871, British Museum central archives, 529.
[226] Department of Oriental Antiquities acquisition registry 1870-1875, vol. 1., Department of Ancient Egypt and Sudan, British Museum
[227] Samuel Sharpe, 'Jewish Fragments', *The Athenaeum*, 14 February 1874.

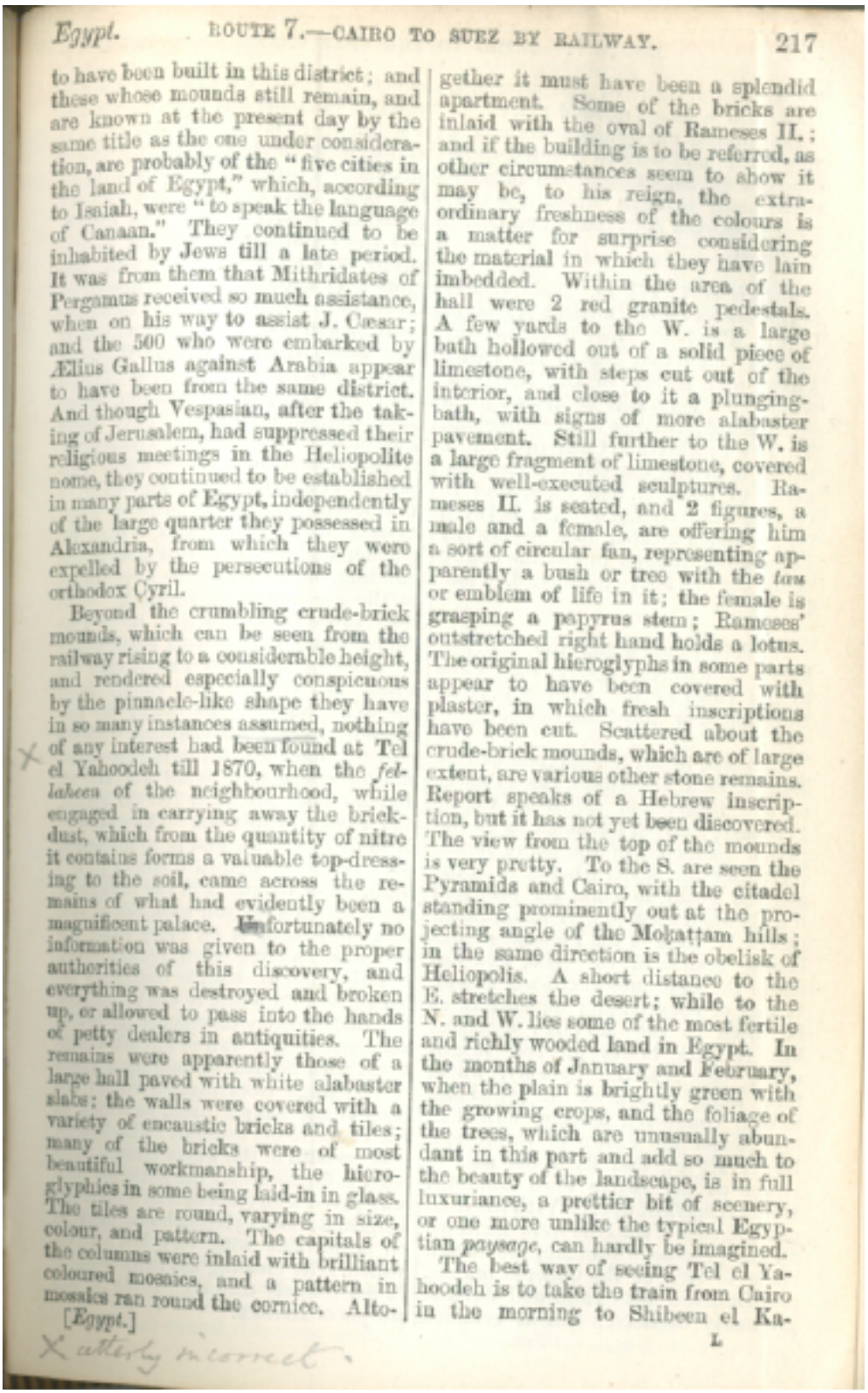
years, meaning the chronology and history of Tell el-Yahudiyeh was far more complicated than previously imagined.

Birch approached Lewis in 1878 to investigate the decorative pieces further, presumably seeking his architectural expertise. Intrigued by "the peculiar character and beauty" of the tiles, Lewis accepted Birch's proposal to present his findings at a meeting of the Society of Biblical Archaeology. With no plans to go to Tell el-Yahudiyeh himself before making his report, Lewis began seeking answers to two unresolved questions. First, he needed to know the exact provenance of the tiles in Tell el-Yahudiyeh in order to date them. Second, he needed comparative pieces from other archaeological sites.

For Lewis, the question of provenance was not about ascertaining archaeological context, but rather, gathering credible witness testimonies about the approximate location where the tiles had been sourced. Chester had either purchased the Tell el-Yahudiyeh objects from the antiquities market in the nearby village of Shibin al Qanatir or collected pieces that had been previously unearthed by *fellahin* and were thus scattered about the surface of the expansive site. The tiles were therefore Egyptian discoveries—a fact that Lewis obfuscated in his report. Instead he determined the tiles' place of origin by reaching out to a number of trusted informants who had previously travelled to Tell el-Yahudiyeh. He turned first to Frederick Alexis Eaton, the secretary of the Royal Academy and the current editor of *Murray's Handbook for Travellers in Egypt*.[228] Eaton had visited Tell el-Yahudiyeh with Chester 1870 while he was preparing for the newest edition of the guidebook (which had not been significantly revised since Wilkinson's 1847 original). Lewis relied on the 1875 edition of the guidebook for its description of Tell el-Yahudiyeh (**Figure 2.3**). He further endorsed the account to his audience, claiming that he knew "of no good description of the site, except the one given by Mr. Eaton."[229] Eaton appended Wilkinson's version.

[228] 'Obituary for Sir Frederick A. Eaton', *The Times*, 12 September 1913.
[229] Lewis, 'Tel-El-Yahoudeh', 182.

Figure 2.3. Map of the Eastern Delta from Greville Chester's personal copy of Frederick Alexis Eaton, ed., *A Handbook for Travellers in Egypt*, 5th ed., revised on the spot (London: John Murray, 1875), Pl. 1. 186.323 Mur, Sackler Library, University of Oxford.



Egypt. ROUTE 7.—CAIRO TO SUEZ BY RAILWAY. 217

to have been built in this district; and these whose mounds still remain, and are known at the present day by the same title as the one under consideration, are probably of the "five cities in the land of Egypt," which, according to Isaiah, were "to speak the language of Canaan." They continued to be inhabited by Jews till a late period. It was from them that Mithridates of Pergamus received so much assistance, when on his way to assist J. Cæsar; and the 500 who were embarked by Ælius Gallus against Arabia appear to have been from the same district. And though Vespasian, after the taking of Jerusalem, had suppressed their religious meetings in the Heliopolite nome, they continued to be established in many parts of Egypt, independently of the large quarter they possessed in Alexandria, from which they were expelled by the persecutions of the orthodox Cyril.

Beyond the crumbling crude-brick mounds, which can be seen from the railway rising to a considerable height, and rendered especially conspicuous by the pinnacle-like shape they have in so many instances assumed, nothing of any interest had been found at Tel el Yahoodeh till 1870, when the *fellaheen* of the neighbourhood, while engaged in carrying away the brick-dust, which from the quantity of nitre it contains forms a valuable top-dressing to the soil, came across the remains of what had evidently been a magnificent palace. Unfortunately no information was given to the proper authorities of this discovery, and everything was destroyed and broken up, or allowed to pass into the hands of petty dealers in antiquities. The remains were apparently those of a large hall paved with white alabaster slabs; the walls were covered with a variety of encaustic bricks and tiles; many of the bricks were of most beautiful workmanship, the hieroglyphics in some being laid-in in glass. The tiles are round, varying in size, colour, and pattern. The capitals of the columns were inlaid with brilliant coloured mosaics, and a pattern in mosaics ran round the cornice. Altogether it must have been a splendid apartment. Some of the bricks are inlaid with the oval of Rameses II.; and if the building is to be referred, as other circumstances seem to show it may be, to his reign, the extraordinary freshness of the colours is a matter for surprise considering the material in which they have lain imbedded. Within the area of the hall were 2 red granite pedestals. A few yards to the W. is a large bath hollowed out of a solid piece of limestone, with steps cut out of the interior, and close to it a plunging-bath, with signs of more alabaster pavement. Still further to the W. is a large fragment of limestone, covered with well-executed sculptures. Rameses II. is seated, and 2 figures, a male and a female, are offering him a sort of circular fan, representing apparently a bush or tree with the *tau* or emblem of life in it; the female is grasping a papyrus stem; Rameses' outstretched right hand holds a lotus. The original hieroglyphs in some parts appear to have been covered with plaster, in which fresh inscriptions have been cut. Scattered about the crude-brick mounds, which are of large extent, are various other stone remains. Report speaks of a Hebrew inscription, but it has not yet been discovered. The view from the top of the mounds is very pretty. To the S. are seen the Pyramids and Cairo, with the citadel standing prominently out at the projecting angle of the Moḳaṭṭam hills; in the same direction is the obelisk of Heliopolis. A short distance to the E. stretches the desert; while to the N. and W. lies some of the most fertile and richly wooded land in Egypt. In the months of January and February, when the plain is brightly green with the growing crops, and the foliage of the trees, which are unusually abundant in this part and add so much to the beauty of the landscape, is in full luxuriance, a prettier bit of scenery, or one more unlike the typical Egyptian *paysage*, can hardly be imagined.

The best way of seeing Tel el Yahoodeh is to take the train from Cairo in the morning to Shibeen el Ka-

[*Egypt.*] L

X utterly incorrect.

Figure 2.4. Description of Tell el-Yahudiyeh in Greville Chester's personal copy of Murray's 1875 handbook. Chester noted that the assumption that there was nothing of interest at the site was "utterly incorrect," and that it was "fortunate" for his personal collection that unauthorized digging was not reported to Mariette. Frederick Alexis Eaton, ed., *A Handbook for Travellers in Egypt*, 5th ed., revd. on the spot (London: John Murray, 1875), 217. 323 Mur, Sackler Library, University of Oxford.

> Beyond the crumbling crude-brick mounds, which can be seen from the railway rising to a considerable height, and rendered conspicuous by the pinnacle-like shape they have in so many instances assumed, nothing of any interest had been found at Tel el Yahoodeh till 1870, when the *fellaheen* of the neighborhood, while engaged in carrying away the brick-dust, which from the quantity of nitre it contains forms a valuable top-dressing to the soil, came across remains of what had evidently been a magnificent palace. ~~Un~~fortunately no information was given to the proper authorities of this discovery, and everything was destroyed and broken up, or allowed to pass into the hands of petty dealers in antiquities. The remains were apparently those of a large hall paved with white alabaster slabs; the walls were covered with a variety of encaustic bricks and tiles; many of the bricks were of most beautiful workmanship, the hieroglyphics in some being laid-in in glass. The tiles are round, varying in size, colour, and pattern. The capitals of the columns were inlaid with brilliant coloured mosaics, and a pattern in mosaics ran round the cornice. Altogether it must have been a splendid apartment....[230]

Despite being with Eaton as he revised this description of Tell el-Yahudiyeh "on the spot," Chester clearly had some disagreements about Eaton's version of the "discovery" of tiles from the mound. In his personal copy, as shown in the passage just quoted, he underlined the word "assumed" and beside it commented "utterly incorrect." He also crossed out the "un" in unfortunately, clearly pleased that he was an unnamed benefactor of the unreported antiquities (**Figure 2.4**). Lewis also wrote to Chester asking for a personal anecdotal account of what he could remember of this building. Chester responded,

> …the hall was about (from memory) thirty feet long and twenty broad; the walls broken down; the columns should be described as pedestals about three feet high. One was of alabaster, displaced; another, of granite, was found *in situ*…It was ornamented with tiles at the top.[231]

Finally, Lewis wrote to Joseph Bonomi, who he had corresponded with since the early 1860s when the artist-explorer applied to senior members of Royal Institute of British Architects for the position of curator of the Sir John Soane Museum in London.[232] Bonomi was able to tell Lewis exactly where the tiles came from at the site, partly because he had sketched them for himself. He then redrew this sketch in a letter to Lewis, indicating the tiles' find spots (**Figure 2.5**). He recalled that the last time he had visited Tell el-Yahudiyeh he had seen:

> …a number of workmen who had just dug out a beautiful gate inscribed with the name of Ramses III. It had never been seen before and was built of massive limestone blocks at the south end of the Tel. From both sides of the gate proceeded a beautiful wall 10 feet thick made of square blocks of limestone. This wall was not dug out between the hills and the gate, but from the gate to the river end of the Tel

[230] Frederick Alexis Eaton, ed., *A Handbook for Travellers in Egypt*, 5th edition, revd. on the spot (London: John Murray, 1875); Lewis, 'Tel-El-Yahoudeh', 187.
[231] Lewis, 'Tel-El-Yahoudeh', 187.
[232] Donaldson to Bonomi, 4 March 1861, Add.9389.2.D.64 and Lewis to Bonomi, 28 March 1861, Add.9389.2.L.142, Cambridge University Library.

> it was, and I saw the corner. The workmen were digging out the foundations of this magnificent wall on the riverfront below the cultivatable soil and carrying them away. It is from the midst of these crude brick ruins that your tiles have been brought.[233]

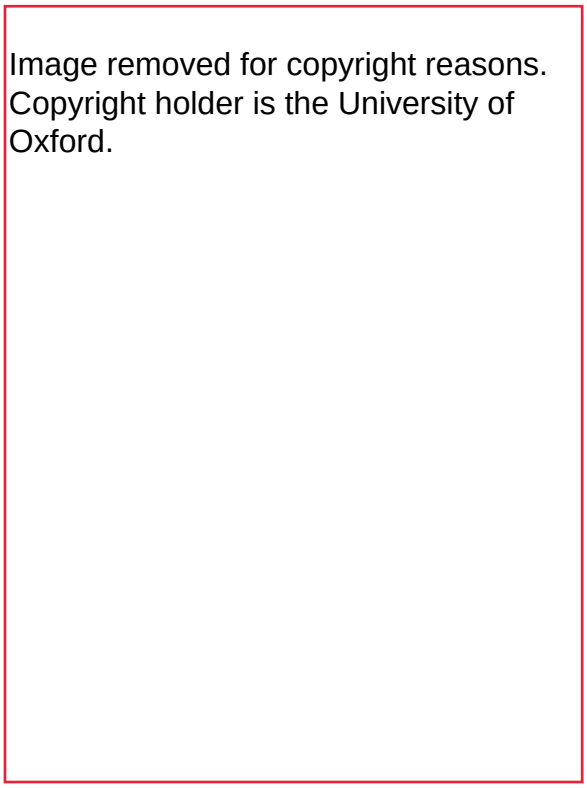
The provenance question was partially addressed with Eaton, Chester, and Bonomi's first-hand observations. Lewis was able to determine generally where Tell el-Yahudiyeh was located in the Delta region, what kinds of archaeological remains could be found at the site, and where in those remains the decorative tiles that Chester sold to the museum were originally excavated.

Lewis soon turned his focus to analysing the tiles in the British Museum, arranging frequent visits to examine them closely. The most interesting pieces for Lewis were porcelain tiles depicting foreign prisoners of war—iconography that was characteristically Egyptian (**Figure 2.6**). However, the non-Egyptian tiles represented a type that had not been previously seen or studied. Saying something about these tiles would be more difficult. Lewis turned to his correspondence network to help with this task. Bonomi suggested a possible comparison of a porcelain figure he had once found in a doorjamb in Ramses III's mortuary temple at Medinet Habu. Lewis himself speculated that there may have been a similar piece in Asyut, which Amelia Edwards described in her travel account *A Thousand Miles up the Nile*.[234] However, anecdotal accounts alone would not suffice; Lewis needed to locate physical comparisons. Edwards also mentioned a second instance of decorative tiles in the doorjamb of a tomb in Sakkara. Lewis enlisted Andrew MacCallum, a British landscape painter who had visited Egypt several times in the 1870s and "who [knew] Egypt thoroughly," to secure the plastered pieces from Sakkara and bring them back to the British Museum for further comparison.[235] Lewis analysed these three examples of what he called "mixed decoration": Bonomi's description of the figure from Medinet Habu, the decorative piece from Asyut described by Edwards, and the pieces MacCallum brought back to London from Sakkara. He concluded that the decorative tiles at Tell el-Yahudiyeh were in fact unique.

One final question lingered for Lewis about the dating of the tiles and of the structure(s) from which they originated. Some of the tiles had written on their backs the Greek letters *E* and *A*.[236] This indicated that they dated to the Ptolemaic period in Egypt, when Josephus wrote that Onias built his temple. If the temple belonged specifically to Onias, a Jewish priest, then Lewis expected to find Hebrew inscriptions as well. Lewis was subsequently excited to learn of "vague

---

[233] Bonomi to Lewis, 25 February 1878, Add.9389.2.L.144, Cambridge University Library.
[234] Lewis, 'Tel-El-Yahoudeh', 181; Amelia Edwards, *A Thousand Miles up the Nile* (London: Longmans, Green & Co., 1877), 155–56.
[235] Lewis to Birch, 21 November 1878, 3789, Middle East Library, British Museum; Lewis, 'Tel-El-Yahoudeh', 181; Morris L. Bierbrier, *Who Was Who in Egyptology*, 4th revised edition (London: The Egypt Exploration Society, 2012), 345.
[236] Lewis, 'Tel-El-Yahoudeh', 182.



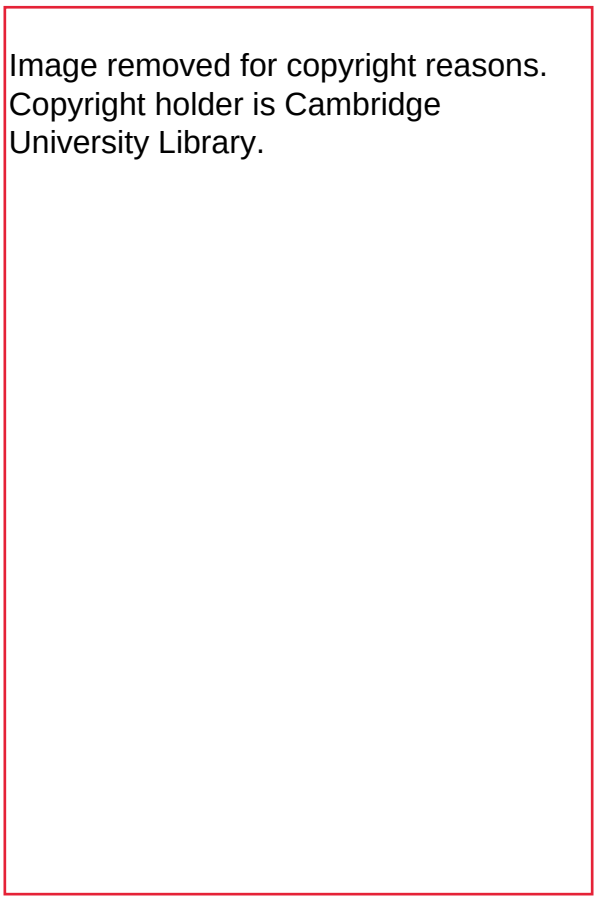


Figure 2.5. Joseph Bonomi's sketch of Tell el-Yahudiyeh, c. 1860 (left). MS 18.29, Griffith Institute, University of Oxford. Bonomi's letter to Thomas Hayter Lewis, 25 February 1878, replicating his sketch on the bottom righthand corner (right). Add 9389.2.L.144, Cambridge University Library.

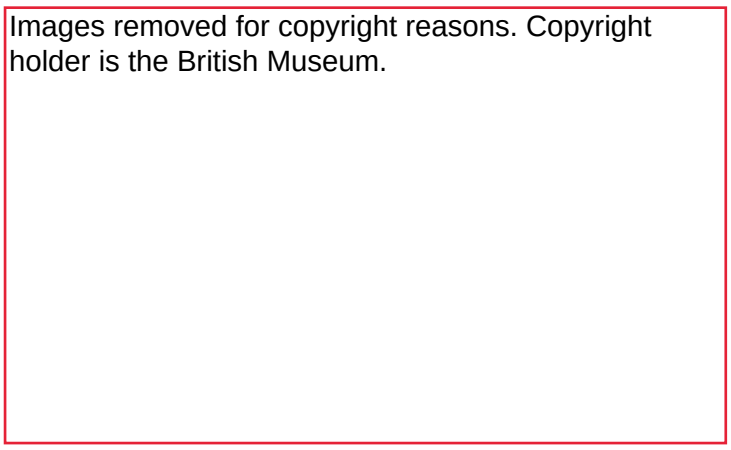


Figure 2.6. Tiles of "foreigners" from the palace of Ramses III at Tell el-Yahudiyeh, sold to the British Museum by Greville Chester. EA 12337 (left) and EA12334 (right), Department of Ancient Egypt and Sudan, British Museum.

rumours of the finding of Hebrew inscriptions" at the site which were "now lost."[237] The report had come from Rodolfo Vittorio Lanzone, an Italian collector and Egyptologist born in Cairo and employed at the Turin Museum, who corresponded with Birch regularly. Lanzone reputedly collected a fragment from Tell el-Yahudiyeh with a Hebrew inscription on it, but regrettably, he did not copy the inscription and it was lost when the boat carrying it was overturned on the Nile.[238] Similarly, when Assyriologist Archibald Henry Sayce visited Tell el-Yahudiyeh in 1879, he claimed to discover a stone fragment with two uncertain symbols on it. He theorized that the characters were early versions of the Hebrew letters *ayin* and *chet*. Sayce copied the inscription and had Chester publish his finding with the engraving of the inscription in the *Palestine Exploration Fund Quarterly Statement* in 1880. Unfortunately, upon returning to Tell el-Yahudiyeh, Sayce was unable to locate the fragment again.[239] While both Hebrew inscriptions seemed to have disappeared, the mere report of their discoveries by trusted authorities was evidence enough for Lewis to substantiate the claim made by so many previous explorers that Onias built the temple at Tell el-Yahudiyeh and that the site was indeed an ancient Jewish settlement.

An Archaeological Informant Turned Egyptologist

Lewis used his archaeological network to make claims about Tell el-Yahudiyeh from afar. The first-hand observations, descriptions, drawings, objects, and analyses from Chester, Eaton, Bonomi, Sharpe, MacCallum, Edwards, Lanzone, and Sayce helped Lewis construct a sense of the archaeological layout of Tell el-Yahudiyeh, to identify the most important ruins, to analyse the tiles, and to date the site. However, these descriptions were compiled from past observations. For Lewis's analysis of Tell el-Yahudiyeh to be truly credible, he needed an informant to go to the field on his behalf, equipped with specific instructions. This had to be someone Lewis could trust to record what he observed accurately, so that Lewis could analyse the field back in London.

Lewis's solution was to "solicit the most recent information from Dr. Grant, a very zealous antiquary."[240] James Andrew Sandilands Grant was a Scottish surgeon from Methlick who had moved to Alexandria in 1866 to provide medical aid for a cholera outbreak. He was promoted to several prestigious medical positions for the British Consulate in Cairo and for the Egyptian

[237] Greville John Chester, 'A Journey to Biblical Sites in Lower Egypt, Etc.', *Palestine Exploration Quarterly* 12, no. 3 (1880): 137.
[238] Lewis, 'Tel-El-Yahoudeh', 189.
[239] Émile Brugsch-Bey, 'On et Onion', *Recueil de Travaux Relatifs à La Philologie et à l'archéologie Égyptienne et Assyrienne* 8 (1886): 6.
[240] Lewis, 'Tel-El-Yahoudeh', 184.

Figure 2.7. James Grant's medical facility in Cairo, c. 1879. 2121, Middle East Library, British Museum.

Government railways, after which the Khedive conferred on him the honorary military title Bey.[241] Grant owned a medical facility in Cairo from which he would provide medical care to members of the colonial office, tourists, explorers, and archaeologists (**Figure 2.7**). Eaton listed Grant under "Medical Men" in his guidebook, as a physician who was "for many years resident at Cairo, and well acquainted with the ailments incidental to the country, and the peculiarities of the climate."[242]

Grant was a close acquaintance of the Scottish astronomer and pyramidologist Charles Piazzi Smyth. Just a few years after his 1865 survey of the Great Pyramid, Smyth introduced Grant to Waynman Dixon, a British engineer working on railway construction near Cairo.[243] Smyth hoped to return to Cairo around 1872 to re-measure Khufu's pyramid but fell ill and instead asked Dixon and Grant to go on his behalf. This exploratory work was extremely enticing for Grant, as he recalled in several letters to Smyth during that season's work. He reported back to Smyth about their progress, interactions with the antiquities service and problems getting a permit, thoughts on inscriptions he had found, and his communications with several Egyptologists in Cairo. One letter

[241] 'Egypt and the Cholera', *British Medical Journal* 2, no. 1182 (25 August 1882): 391–93; 'Obituary: Dr. James Andrew Sandilands Grant Bey, LL.D', *British Medical Journal*, 15 August 1896, 427–28.
[242] Eaton, *A Handbook for Travellers in Egypt*, 117.
[243] Waynman Dixon, along with his brother John Dixon and Benjamin Baker, later worked together on the removal and transportation of Cleopatra's Needle to London; see Bierbrier, *Who Was Who in Egyptology*, 155

described some measurements he had obtained from the pyramid and some problems Dixon had with his calculations, as well as an explanation for the Hebrew origin of the word "pyramid," which he learnt from a conversation with Émile Brugsch.[244] Grant and Dixon became the first Europeans to find the "Queen's chamber" in Khufu's pyramid.[245] This gave both men some credibility amongst scholars in Britain who did not, for whatever reason, travel to Egypt themselves. Partially because of his work at the Great pyramid, and certainly because of his strategic location in Cairo and medical expertise, Grant developed a reputation as a reliable go-to person in Egypt, someone who assisted with practical matters.

Grant used his Cairo residency to bring together several notable Egyptologists. Petrie first met "the Prefect, Dr. James Grant, an English doctor practicing in Cairo" in 1880 before his first season of work at the pyramids. At this meeting, Grant introduced Petrie to his long-time *ra'is* Ali Gabri. Gabri was an experienced assistant, one of the "Pyramid Arabs" in urban Cairo. He had excavated in Khufu's pyramid with Howard Vyse in 1837 as a child, with Charles Piazzi Smyth and his geologist wife Jessie Duncan Smyth in 1865, and with Grant and Dixon in 1872 (**Figure 2.8**).[246] Petrie's initial assessment of Gabri as "trustworthy" is strikingly reminiscent of Hekekyan's introduction to Horner. Petrie required character references from his British colleagues and Grant was an interpreter in drawing up his and Gabri's work agreement.

> …There stood Ali Gabri with a card from Mr. Grant, saying that if I would come with him to the Dr's we would settle matters. So I started off and chatted to Ali on the way; he speaks very fair English, and though no beauty, he has a very pleasant and trustworthy face, looking calm, simple, decided and straight forward, a man whom I could trust without a recommendation; and considering the excellent character given him by C.P.S., Weynman Dixon, Mr. Gill,[247] and Dr. Grant, I felt every confidence in him. I had written out all that I thought necessary to settle, and Dr. G. took my paper and talked over each point with Ali Gabri in Arabic…Having settled it all, and engaged Ali at £1 per week from that time forward, (he saying that he did it for love of Mr. Smyth and Mr. Gill and not for the sake of money) we then left.[248]

Petrie referred to the Grants' home as his "place of call in Cairo."[249] Many more Egyptologists visited Grant at his home or dined with him at the Shepheard's hotel, popular amongst European travellers in Cairo. The American traveller Charles Wilbour visited Grant and his wife on several

---

[244] Grant to Piazzi Smyth, 23 June 1872, Royal Observatory, Edinburgh.
[245] Mark Lehner, *The Complete Pyramids* (London: Thames and Hudson, 1997), 113.
[246] Petrie, *Seventy Years in Archaeology*, 20–21.
[247] David Gill was another Scottish astronomer who had made a triangulation of the Great Pyramid in 1874. Grant knew Gill and Jessie Smyth from his time in Aberdeen. Flinders Petrie was well-acquainted with Smyth, Dixon, Gill, and pyramid theorist Sydney Hall before going to Egypt, through his father William Petrie.
[248] Petrie's journal entry from 12 December 1880, cited in Margaret S. Drower, ed., *Letters from the Desert : The Correspondence of Flinders and Hilda Petrie* (Warminster: Aris & Phillips, 2004), 12–13; Quirke, *Hidden Hands*, 52.
[249] Petrie, *Seventy Years in Archaeology*, 20.

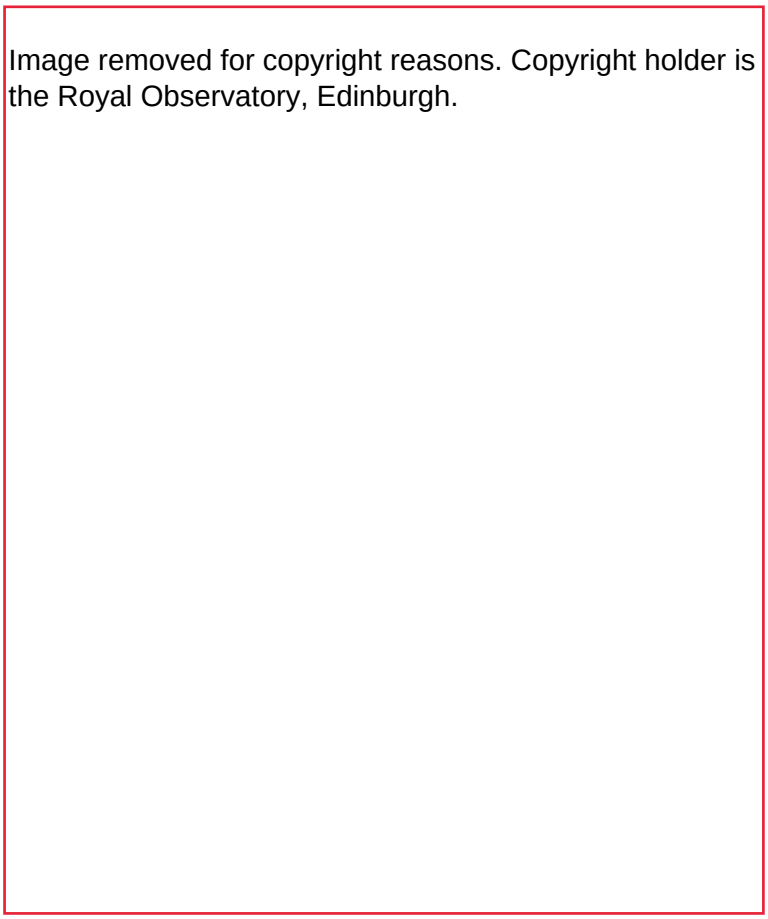


Figure 2.8. Photograph of Ali Gabri, 1865, while working with Charles Piazzi Smyth at the Giza Pyramids. Smyth referred to him as the "day guard" at the East Tombs (where Petrie lived when he worked with Gabri in 1880) and mistakenly called him "Alee Dobree." Smyth MSS, Royal Observatory, Edinburgh.

occasions and met other Egyptologists through him.[250] Grant introduced Wilbour to Petrie and to British Egyptologist Francis Llewellyn Griffiths. These interactions were quite typical throughout the 1880s, when Grant held a gathering on Wednesday evenings to bring Egyptologists and travellers together. Petrie wrote of these events, that "the more intelligent Europeans and natives met and had a short discourse on some matter of history or antiquities, looked over the Grant collection, and exchanged ideas."[251]

Grant amassed a large collection of Egyptian objects in his Cairo home, which many of his acquaintances flocked to see. Wilbour remarked that it was "a considerable Egyptian Museum."[252] Grant once proclaimed in a letter to Birch that he had "quite a collection of antiquities and will soon be able to compete with the British Museum!!!" He asked what kinds of antiquities Birch

[250] Charles E. Wilbour, *Travels in Egypt (December 1880 to May 1891): Letter of Charles Edwin Wilbour*, ed. Jean Capart (Brooklyn: Brooklyn Museum, 1936).
[251] Petrie, *Seventy Years in Archaeology*, 81; See also Wilbour, *Travels in Egypt (December 1880 to May 1891): Letter of Charles Edwin Wilbour*, 540.
[252] Wilbour, *Travels in Egypt (December 1880 to May 1891): Letter of Charles Edwin Wilbour*, 84.

most desired because "great numbers pass through my hands."[253] Many of the items were damaged in a fire in 1891, but not before Francis Llewellyn Griffith had an opportunity to make notes of many of the antiquities.[254] Grant's work as an antiquities collector and as a go-between for Egyptologists earned him some credibility as an expert on ancient Egypt, and he embraced a dual persona as a medical doctor and Egyptologist. While attending the International Medical Conference in Washington in 1887 he also gave a lecture on ancient Egypt at Harvard University.[255] He was introduced by a professor there as "the most eminent authority of present time on the language, literature and art of the ancient Egyptians."[256] He later published on ancient Egyptian medicine.[257] From this point of view, Grant was not only an important mediator in the circulation of archaeological knowledge, but represented a new type of figure who simultaneously considered a trustworthy informant and de facto Egyptologist within many circles.

It was Grant's initial work for Smyth in 1872 that allowed him to hone certain skills as a trusted informant. Lewis first contacted the doctor in 1875, asking Grant and Dixon to explore a "mummy pit" near the Giza pyramids and to make some sketches for him.[258] Grant became an obvious candidate to perform similar work at Tell el-Yahudiyeh on Lewis's behalf. Lewis persuaded Grant to make several visits to Tell el-Yahudiyeh between 1878 and 1880. Following one or more of these trips, he delivered written descriptions of the site, as well as "interesting sketches and copies of hieroglyphs" to Lewis (**Figure 2.9**).[259]

Perhaps the most important drawing that Grant sent to Lewis was a sketch map of Tell el-Yahudiyeh. Lewis "worked out" a ground plan of the mound using Grant's descriptions and sketches.[260] It was lithographed by the secretary of the Society of Biblical Archaeology, W. H. Rylands, who routinely illustrated papers, diagrams, and maps for the society's *Transactions* and *Proceedings*.[261] The map was published along with Lewis's report in the 1882 *Transactions* (**Figure 2.10**). This was the first archaeological map of Tell el-Yahudiyeh and it was an important visual tool. A long-distance romantic rendering of a fairly typical topographical plan, the map lacked

[253] Grant to Birch, 30 August 1879, 2121, Middle East Library, British Museum.
[254] Griffith Notebook, 1886, G/N9, Griffith Institute, University of Oxford. The surviving artefacts were donated to the Marischal Museum at Grant's alma mater the University of Aberdeen.
[255] *Annual Report of the Board of Regents of the Smithsonian Institution to the End of June 1889* (Washington: Government Printing Office, 1890), 9.
[256] 'Ancient Egypt', *The Harvard Crimson*, 12 October 1887, http://www.thecrimson.com/article/1887/10/12/ancient-egypt-james-grant-bey-the/.
[257] Grant read a paper entitled "Ancient Egyptian Medicine" at the International Medical Congress in 1894. Cited in Richard Caton, *Imhotep and Ancient Egyptian Medicine* (London: C.J. Clay and Sons, 1904).
[258] Lewis, 'Notes on Ancient and Modern Egypt', 33.
[259] Lewis to Birch, 24 October 1878, 3788, Middle East Library, British Museum.
[260] Lewis, 'Tel-El-Yahoudeh', 184, 192.
[261] Legge, 'The Society of Biblical Archæology', 31–32.

Image removed for copyright reasons. Copyright holder is the British Museum.

Figure 2.9. Hieroglyphic sketches from Tell el-Yahudiyeh, sent by Grant to Lewis. 3788, Middle East Library, British Museum.

Figure 2.10. The first archaeological map of Tell el-Yahudiyeh, made by Lewis based on a descriptions, sketches and surveys supplied by Grant. From T.H.Lewis, "Tell el-Yahoudeh (the mound of the Jew)," *Transactions of the Society of Biblical Archaeology*, vol. 7 (1882): 178.

everything that would later become essential in archaeological site plans; it contained no cardinal directions, measurements, numbers, scales, nor accuracy. Lewis advised that it "must not be taken as more than generally correct in detail."[262] Its purpose was to "explain the particulars of the site more clearly than a mere verbal account would do."[263] The visual representation lent credibility to his written conclusions. Moreover, Lewis's descriptions, his own credentials and those of his archaeological network, the references to Murray's guidebook, the publication of the map by the Society of Biblical Archaeology, and the stamp of approval by Samuel Birch, all gave Lewis's map more authority.

Lewis subsequently visited Tell el-Yahudiyeh in 1882 accompanied by Chester (Grant was meant to join but was unable at the last minute). Lewis wrote to Rylands in the spring of 1882 describing his recent survey of the site and his letter was read at the next meeting on 2 May 1882: "I had [Grant's] plan with me on the spot and was surprised that he had been able to make so good a one, considering the extremely irregular surface of the ground."[264] Most discrepancies, such as objects missing or out of place, were explained by recent Egyptian interference. New discoveries were described in reference to the existing map, confirming its accuracy and lending it more credibility in the process.

In the process of analysing Tell el-Yahudiyeh and its artefacts, and representing it to British audiences, Lewis did not thoughtlessly employ Grant or the other members of his archaeological network. Reliance on his network not only justified but was, he believed, an excellent way to acquire and produce archaeological knowledge. Nor did his methodology concern any of the readers of the society's *Transactions*. One reviewer simply assessed Lewis's report to be "extremely interesting" and "beautifully illustrated."[265] Lewis moreover defended this methodology in the *Academy* a few days after the publication of his report. He presented a chronological problem that required further investigation and would justify lengthier and fuller excavations. It was almost certain that the older temple at Tell el-Yahudiyeh was constructed by or for Ramses III, but was Tell el-Yahudiyeh occupied beforehand, as some objects collected by Chester had indicated? Was there any proof that Onias re-used an older temple, as Josephus had indicated? "No doubt, careful examination would solve the problem," Lewis insisted, "and this case is just one of those in which a small sum of money put into the hands of a local and zealous antiquary (we may take Dr. Grant as an excellent example) would be likely to produce most important results."[266]

---

[262] Lewis, 'Tel-El-Yahoudeh', 192.
[263] Ibid., 184.
[264] Thomas Hayter Lewis, 'Notes on Tell-El-Yahoudeh', in *Proceedings of the Society of Biblical Archaeology, November 1881 to June 1882*, vol. 4 (London: The Society of Biblical Archaeology, 1882), 89.
[265] 'Review: The Transactions of the Society of Biblical Archaeology (Vol.Vii, Part 2)', *The Academy*, 9 July 1881, 479 edition.
[266] Lewis, 'Tel-El-Yahoudeh', 191.

Lewis's long-distance descriptions and map of Tell el-Yahudiyeh were taken seriously by subsequent archaeologists, as was his plea for further investigations. They prompted Edouard Naville and his assistant Francis Llewellyn Griffith to excavate the site in 1887 on behalf of the Egypt Exploration Fund. Naville repeatedly cited the work of "several distinguished archaeologists, Mr. Greville Chester, Dr. Grant and Prof. Hayter Lewis," indicating that the antiquities collector, medical surgeon, and architect were regarded as Egyptological experts. Naville hoped to irrefutably determine the ancient Egyptian name of the city from artefacts found *in situ*, and confirm that it was indeed the location of the Jewish city built by Onias. He made particular use of Lewis and Brugsch's descriptions of the architectural and monumental remains at Tell el-Yahudiyeh and followed Lewis's map closely as a guide. "Unfortunately," Naville lamented, "everything has been destroyed and almost none of the monuments shown on Mr. Hayter Lewis' plan remain."[267] Naville did not consider his inability to locate the monuments to be a reflection of the inaccuracy of the map, but rather, argued it was a consequence of the destruction caused by *sebakhin* since 1870.[268]

Situating Long-Distance Archaeology

The first map of Tell el-Yahudiyeh, a culmination of century-long efforts to locate the site, is significant because it points to communication networks through which archaeological knowledge was typically produced during this period. It also carried with it the implicit power of claiming and appropriating territory at a distance. Historians of cartography have showed that maps present powerful arguments because they assert that what is represented on the page exists somewhere else, which can be a convincing knowledge-claim when those places are not easily accessible to the map's audiences. Maps yield their authority to serve the interests of map-makers and have been considered "weapons of imperialism" used to claim lands on paper before they were actually occupied.[269] Historians and postcolonial scholars have established the important relationship between knowledge, power, and geography, especially in the making of the "Middle East." The production and reception of maps played an essential role in the Victorian "geographical imagination" of the Orient.[270] As Daniel Foliard shows, many "British" maps of Egypt and elsewhere were the products of long-distance practices that involved textual analysis, as well

[267] Edouard Naville, 'Les Fouilles Du Delta Pendant l'hiver de 1887', *Recueil de Travaux Relatifs a !A Philologie Eta l'Archeologie Egyptiennes et Assyriennes* 10 (1888): 50–57; Naville and Griffith, *The City of Onias*, 5–12, 17–21.
[268] Naville's excavation of Tell el-Yahudiyeh for the EEF, and the politics of *sebakh* digging, are discussed further in chapter 4.
[269] J.B. Harley, *The New Nature of Maps: Essays in the History of Cartography*, ed. Paul Laxton (Baltimore and London: The John Hopkins University Press, 2001), 57; Denis Wood and John Fels, *The Natures of Maps: Cartographic Constructions of the Natural World* (Chicago: University of Chicago Press, 2008).
[270] On the "geographical imagination," see Said, *Orientalism*, 49–73; Gregory, 'Imaginative Geographies'.

collecting and scrutinising information from informants and locals. Cartographies of the Orient were moreover shaped by political, racial, and biblical impulses. In particular, "place-names are reflections of these evolving constructions. They can be purged, erased, and transformed." Foliard shows that from this perspective, "the invention of the Middle East was the final state of a slow geographical and cartographic elaboration of the transitional East in the nineteenth century."[271]

Nineteenth-century topographical-archaeological maps of Egypt were strategic panoramic devices, part of the enframing "world as exhibit" perspective described by Timothy Mitchell that would give the appearance of colonial order and certainty.[272] Many analyses of early topographical maps have focused specifically on the Napoleonic expedition and monumental multi-volume *Description de l'Egypte* (1809-1829). The visual plates of antiquities in the first two volumes were organised hierarchically. They began with topographic maps to show the location of antiquities, then showed perspectival views of the antiquities, followed by close up images of reliefs and inscriptions. Derek Gregory notes that such descriptive and visual practices were key in the process of demarcating space, of imaginatively and materially claiming space for colonisers.

> This mode of detailed representation was a way of claiming not only empirical authority—that sense of 'being there' which dazzled the first European readers of the *Description* and which continues to invest contemporary ethnographies with so much power—but also the colonial *legitimacy*: an implication that the scholars, and by extension their European audience, were entitled to be there and to have Egypt set out thus for their edification.[273]

The frontispiece of the *Description* deliberately omitted any evidence of the modern inhabitants of Egypt. In only depicting the antiquities, Anna Godlewska has argued that these volumes showed only "the Egypt that could be claimed and taken home." The hundreds of sketches and maps produced by French military geographers were thus "inextricably tied to imperial conquest." [274]

Detailed topographical plans became critical tools in demarcating the physical parameters of archaeological ruins, establishing their status as archaeological field sites, and in taking possession of territory. These geographical claims to the archaeological landscape presented intellectual and moral arguments about the inherent value of these places to the west and simultaneously displaced local populations. Throughout the British Empire, such visual culture played a critical role in the legitimization of archaeology as a discipline, as archaeological knowledge

---

[271] Daniel Foliard, *Dislocating the Orient: British Maps and the Making of the Middle East, 1854-1921* (Chicago: University of Chicago Press, 2017), 53.
[272] Mitchell, *Colonising Egypt*, 10–14.
[273] Gregory, 'Imaginative Geographies', 461.
[274] Godlewska A, 'Map, Text and Image. The Mentality of Enlightened Conquerors: A New Look at the Description de l'Egypte', *Transactions of the Institute of British Geographers* 20, no. 1 (1995): 6; Anne Godlewska, 'Napolean's Geographers', in *Geography and Empire*, ed. Anne Godlewska and Neil Smith (Oxford: Blackwell, 1994), 41; Riggs, 'Discussing Knowledge in the Making', 132.

was "anchored upon the transcription of sight."[275] Lewis's map of Tell el-Yahudiyeh was a characteristic example of these visual practices in archaeology. The eagle-eye view of the tell did not contain any evidence of the Bedouin who lived there or the *fellahin* who were blamed for regularly digging through it. The map gave crucial context to the detailed images of artefacts, reliefs, and inscriptions that appeared alongside it in Lewis's paper. It therefore served the same ideological and pragmatic role as Napoleon's maps and those made by surveyors of the Palestine Exploration Fund. The map was a way to both confirm Tell el Yahudiyeh's exact location, but also demarcated the space as field site for the west, facilitating subsequent excavations in the late nineteenth and early twentieth centuries.

The long-distance investigations that culminated in this map were of course not limited to Egyptology but were a credible path to knowledge within other expeditionary sciences of the mid- to late nineteenth century. There was a division of labour in both geography and anthropology between fieldworker and scholar. It was the fieldworker's job to collect, observe, and provide testimony, and the scholar's job to analyse. As the geographer Richard Burton once succinctly put it, the fieldworker's duty was "to see and not think."[276] The "armchair geographers" of the Royal Geographical Society (RGS) thought only they possessed the knowledge and expertise to analyse geographical data brought back from the field by explorers.[277] Lawrence Dritsas has contrasted the opposing methodologies of the armchair geographers who worked from ancient textual sources and collected second-hand testimonies with those of the geographical explorers who relied on "instruments and direct observation."[278] The geographers who had witnessed and documented geographical places directly did not automatically supersede the armchair scholars, because the former's credibility was easily questioned when they had not observed every part of a land, or only relied on the testimony of indigenous locals.[279] Instead, both groups contributed to geographical knowledge on the source of the Nile through a public process of scrutiny and debate in the RGS meetings. Those who had made direct observations were not, according to members of the RGS, necessarily equipped to conduct the type of analysis needed to make geographical knowledge.

This too was the case in anthropology. Cambridge-based anthropologist Alfred C. Haddon defended his choice to devote more space in his *History of Anthropology* (1910) to discuss the "arm-chair workers" and less to the "labourers in the field." He wrote that "detailed investigations,

[275] Sudeshna Guha, 'Visual Histories, Archaeology, and Photographic Knowledge', in *Depth of Field: Photography as Art and Practice in India*, ed. Rahaab Allana, Lalit Kala Contemporary 52 (New Delhi: Lalita Kala Akademi, 2012), 29; Sudeshna Guha, *Artefacts of History: Archaeology, Historiography and Indian Pasts* (New Delhi: SAGE publications, 2015), 29.
[276] Kennedy, 'British Exploration in the Nineteenth Century: A Historiographical Survey', 1888.
[277] Ibid.
[278] Dritsas, 'Expeditionary Science'.
[279] Ibid., 266.

however valuable, have to be merged into generalisations; and generalisations proceed mainly from the arm-chairs."[280] Thus according Barbara Tedlock, before the discipline's shift to becoming a field-based science at the turn of the twentieth century, the "armchair anthropologist" and the "amateur observer" were the two dominant archetypes of anthropological practice.[281] Henrika Kuklick argued that there was an intellectual separation between the uneducated "foot soldiers" who gathered data and scholarly synthesizers back in the metropole, such as James G. Frazer and E.B. Tylor. The armchair anthropologists' methodology was thought to support truly scientific work as it ensured that field observations were not tainted by "theoretical biases."[282] Armchair scholars were aware of the problems that could arise from relying on second-hand testimony and actively addressed the potential pitfalls by designing questionnaires for their informants.[283] In general, while some naturalists or anthropologists did venture to the field, direct field-observation was not seen as necessary to produce credible knowledge; the most important component was the theoretical analysis that took place afterwards.

The theoretical naturalists generally differed from their Egyptological counterparts in their sponsorship. The former were usually members of well-funded societies who sponsored expeditions, often within the support of the colonial office. Fieldworkers were sent out with directions, objectives, and instruments, and often with instructional manuals that explained how to observe and record what they saw. This was a phenomenon across many emerging British field sciences. Architect Thomas Leverton Donaldson's *Questions upon various subjects connected with Architecture* (1835, 1842) instructed members of the Royal Institute of British Architects how to observe and communicate their findings while on the Grand Tour.[284] Henry De la Beche authored *How to Observe: Geology* (1835) and *The Geological Observer* (1851) for members of the Geological Society of London and the Geological Survey of Great Britain.[285] J.R. Jackson wrote *What to Observe; or The Traveller's Remembrancer* (1841) and Henry Raper and Robert Fitzroy the first *Hints to Travellers* (1854), with many subsequent editions for members of the Royal Geographical Society.[286] E. B. Tylor wrote the first questionnaire for the Anthropological Institute in 1871, which was a precursor to the first edition of *Notes and Queries in Anthropology* (1874) published by the British

[280] Alfred C. Haddon, *History of Anthropology* (New York and London: G.P.Putnam's Sons, 1910), xi.
[281] Barbara Tedlock, 'From Participant Observation to the Observation of Participation: The Emergence of Narrative Ethnography', *Journal of Anthropological Research* 47, no. 1 (1991): 69.
[282] Kuklick, *The Savage Within*, 91–92.
[283] Sera-Shriar, 'What Is Armchair Anthropology?', 31; Sera-Shriar, *The Making of British Anthropology*, 9, 12–13.
[284] Thomas Leverton Donaldson, *Questions upon Various Subjects Connected with Architecture, Suggested for the Direction of Correspondents and Travellers and for the Purpose of Eliciting Uniformity of Observation and Intelligence in Their Communication to the Institute* (London: Institute of British Architects, 1835).
[285] De la Beche, *How to Observe: Geology*; Henry De la Beche, *The Geological Observer* (Philadelphia: Blanchard and Lea, 1851).
[286] Julian R. Jackson, *What to Observe; or The Traveller's Rememberancer* (London: James Madden & Co., 1841); Robert Fitzroy and Henry Raper, 'Hints to Travellers', *Journal of the Royal Geographical Society of London* 24 (1854): 328–58; Francis Galton, ed., *Hints to Travellers*, 4th edition (London: Royal Geographical Society, 1878).

Association for the Advancement of Science.[287] Conversely, mid-Victorian explorers in Egypt were not formally instructed by any such societies, though they did rely on guidebooks authored by Egyptologists, such as the handbooks for Egypt published by John Murray, Thomas Cook, and Karl Baedeker.[288] These guidebooks instructed tourists and explorers what to observe and were cited routinely in Egyptological publications as the most descriptive accounts of archaeological sites in Egypt.

Until the late nineteenth century, many kinds of field data were brought or sent back from the colonial frontier and used by archaeologists, anthropologists, geographers, and more broadly, by natural scientists, such as geologists and botanists. The materials included physical artefacts and specimens, as well as written descriptions, visual representations, and verbal testimonies. According to Henrika Kuklick, these types of collections "were characteristic yields of every significant expedition from the dawn of the age of exploration." [289] However, naturalists' use of materials collected by others was not a "passive observational practice"; naturalists actively built relationships with their informants to ensure the veracity of their collections.[290] Kuklick also maintained that analysis of these collections by theoretical scholars was "believed to be so straightforward that knowledge of scientific materials' provenance considered virtually irrelevant to their interpretation."[291] Archaeologists during this period were also first and foremost concerned with objects. They were interested in the provenance of finds, that is, their archaeological context, but only to the extent that that information could help place the collected objects in a chronological or typological sequence.[292] For archaeology, as with other expeditionary sciences, the most useful information came from the objects, not their place of origin. The artefacts, records, and reports brought back from the field were the keys to producing new knowledge.

Long-distance archaeology rested on the same separation of fieldwork and theoretical synthesis that benefited anthropology, geography, and the natural sciences. In her work on late nineteenth- and early twentieth-century archaeological work in India, Sudeshna Guha has distinguished between what it meant to observe the field directly and what it meant to make knowledge-claims about the field, arguing "although seeing is crucial to the production of archaeological knowledge," there has always been a conceptual separation in archaeological discourse between "seeing" and "knowing."[293] Seeing the field did not give the observer the ability

[287] Sera-Shriar, 'What Is Armchair Anthropology?', 30.
[288] Wilkinson, *Handbook for Travellers in Egypt*; Thomas Cook, *Cook's Tourists' Handbook for Egypt, the Nile, and the Desert* (London: Thomas Cook & Son, 1876); Karl Baedeker, ed., *Egypt: Handbook for Travellers*, vol. 1: Lower Egypt, with the Fayum and the Peninsula of Sinai (Leipsic: Karl Baedeker, 1878).
[289] Kuklick, 'After Ishmael', 53.
[290] Sera-Shriar, *The Making of British Anthropology*, 12–13.
[291] Kuklick, 'After Ishmael', 53.
[292] Lucas, *Critical Approaches to Fieldwork*, 32.
[293] Guha, 'Visual Histories, Archaeology, and Photographic Knowledge', 36.

to know the field, as the latter had to rely on scholars and audiences back in the metropole to determine the credibility of his claims. Likewise, theoretical archaeologists had to depend on their informants' observations to say anything of substance. It is useful to understand this division of archaeological labour as a relationship built on mutual dependence and trust.

Reliance on others' observations has been part of the knowledge-making process across natural history and natural philosophy and is not limited to nineteenth century long-distance investigations. This practice is a kind of "virtual witnessing" that requires "a technology of trust and assurance."[294] As Steven Shapin has argued:

> Whenever, and for whatever reasons, those who judge observation-claims cannot be at the place and time where the phenomena is on display, then judgement has to be made 'at a distance.' The trust relationship is, in that sense, inscribed in space. Those who cannot directly witness a phenomena must either reject its existence or take it on trust from those who have, or from testimony still more indirect. And that judgement has…an apparently dual character: there is judgement of matters and judgement of the people who testify to those matters.[295]

Therefore, a key aspect of the "trust relationship" in archaeological knowledge-production has been its spatial dimension. Distancing requires that "those who have not seen these things know them by trusting those who have, or by trusting those who have trusted those who have."[296] The credibility of the person making observations-claims was directly tied to that person's identity. Long-distance archaeology as a practice was contingent on trust. Theoretical scholars and synthesizers, such as Horner and Lewis, had to trust their informants for knowledge-claims to be made credible, and their identities and expertise were crucial to the process.

Conclusion

Livingstone and Withers have argued that knowledge production in nineteenth century expeditionary sciences—and we should include Egyptology in this category—was a process that unfolded over long distances. It was only complete once the information collected abroad was sent home to be scrutinized, when "its claims had been subject to debate, its findings published and reviewed in different scientific journals, and its leaders feted, or not, by the public."[297] Field-knowledge of Tell el-Yahudiyeh was produced on site, where remains were observed and documented, but also in the papers on which maps, sketches, notes, descriptions, rubbings, and

[294] Shapin and Schaffer, *Leviathan and the Air-Pump*, 60.
[295] Shapin, *A Social History of Truth*, 245.
[296] Steven Shapin, 'Placing the View from Nowhere: Historical and Sociological Problems in the Location of Science', *Transactions of the Institute of British Geographers* 23, no. 1 (1998): 8.
[297] Livingstone and Withers, 'Thinking Geographically about Nineteenth-Century Science', 10.

letters were recorded, the private spaces of Grant's home in Cairo, and of the British Museum and UCL where objects were drawn, analysed, and re-represented, the Society of Biblical Archaeology where ideas were presented and scrutinized, and the published spaces where maps were produced and claims disseminated, such as the society's *Transactions* and reviews in periodicals. Here we see that the field and the armchair were just two of the spaces from which Egyptological knowledge was constructed.

Long-distance archaeology is a useful concept for understanding the circulation of archaeological knowledge before high imperialism. British practitioners, generally prohibited from excavating in Egypt for any sustained amount of time by the French-controlled Antiquities Service, dealt with these limitations by building vast networks of informants to extract knowledge about artefacts and to write authoritatively about ancient Egypt at a distance. Long-distance practices generally involved different spaces of fieldwork and analysis, and consequently, an insistence that "informants" and "theorists" were entirely separate individuals—even though this separation was beginning to dissolve. It also involved record-keeping and visual representations allowing information from the field to be mobilized, and practitioners who could guarantee the credibility of their testimonies and records. It is a process that involved collaboration between many types of actors and the movement of information across vast distances. This type of work was not a passive pursuit of virtual witnessing but involved a complicated set of correspondence networks and paper records. Contextualizing this work within contemporary expeditionary sciences is particularly helpful to understand this transformative period in archaeology and the plurality of approaches British Egyptologists used in attempting to make authoritative claims about Egypt. As we will see in the next chapters, long-distance practices continued to shape the next era of fieldwork. As the new figure of the field excavator deliberately consolidated distinctions between the "informant" and "theorist," field-recording and reliable witnessing became more important than ever.

PART II

Shift to the Field?

3 Surveillance and Invisible Field labour, 1880-1906

> For archaeologists the chief work in Egyptology at present must lie in Egypt itself…. In excavating especially, foresight and powers of organization are required, for nothing is so fatally mischievous as such work when improperly conducted. Professor Petrie has shown by example how workmen can be dispatched; how a system of *backshish* on the one hand and dismissal on the other, administered with unflinching truthfulness and justice, will in time transform ignorant *fellahin*, at once suspicious and grasping, into gangs of trustworthy assistants, who will use eyes and intelligence to further aims of the explorer. At the outset the excavator muse be here, there, and everywhere amongst the diggers, notebook and measuring-stick in hand…Exciting discoveries sometimes bring him quick reward; but it is only by prolonged personal labour the he can learn his business. Gradually he will train the more intelligent and honest men to understand something of his aims and to act as watchdogs and guides to others, so that he can diminish his physical exertions though remaining always within call for exceptional emergencies or discoveries. Thus he will gain time for reflection on the endless problems that arise, and be able to organize the work more thoroughly and to record more fully what is of importance.
>
> Francis Llewellyn Griffith, *The Study of Egyptology: Inaugural Lecture Delivered in the Ashmolean Museum on May 8, 1901* (Oxford: Horace Hart, 1901), 10-12.

Egyptologist Francis Llewellyn Griffith's 1901 inaugural lecture at Oxford got to the very core of what it meant to be a new kind of field archaeologist. He and his mentor, W.M. Flinders Petrie, both called this new role the "excavator." The first requirement for an excavator was locality in Egypt; an excavator could only claim authority for his craft through "prolonged personal labour" in the field. An Oxford graduate self-taught in ancient Egyptian scripts, Griffith was one of the first students on Egypt Exploration Fund (EEF) excavations in the Delta. Between 1884 and 1888, he apprenticed under both Petrie and Edouard Naville and learned competing methods of excavation. Griffith first learned his role as a field assistant to Petrie at Naucratis where "he watched the men on the *tell"* and recorded pottery sherds, while Petrie took on an assortment of managerial roles, including "paymaster, photographer, cook, doctor, and chaser of *gizawiya"* (illicit antiquities dealers who loitered near the peripheries of the field site). By Griffith's second year at Tell Nebesha, Petrie left to survey Delta sites for three weeks, leaving Griffith in charge of fieldwork with a trusted *ra'is* Muhammad, the eldest son of his head *ra'is* Ali Gabri.[298] This practice of informal training and delegation fundamentally shaped Egyptological fieldwork and expertise in the late nineteenth century. Griffith's important address highlighted the excavator's key concerns: organisation, observation, trust, distrust, labourers as instruments, and the necessity of "being

[298] Drower, *Flinders Petrie*, 91, 95–96.

there" to jump in at a moment's notice, verify a discovery, and record it accurately. Significantly, there was no mention of the excavator himself excavating.

Unlike his predecessors, and indeed many of his contemporaries, Petrie insisted that archaeological expertise could only be achieved through first-hand excavation experience. This shift to the field in Egyptology corresponded to an emerging belief in anthropology—the umbrella discipline to which archaeology belonged—that the best way to make reliable knowledge was through direct personal observation.[299] Petrie's instructional handbook *Methods and Aims in Archaeology* (1904), was instrumental in establishing the ethos of "being there."

> …An excavator should be always his own best workman. If he be the strongest on the place, so much the better; but at all events he should be the most able in all matters of skill and ability. Where anything is found it should be the hands of the master that clear it from the soil; the pick and the knife should be in his hands every day, and his readiness should be shown by the shortness of his fingernails and the toughness of this skin…The man who cannot enjoy his work without regard to appearances, who will not strip and go into water, or slither on slimy mud through unknown passages, had better not profess to excavate.[300]

Methods and Aims was key in associating archaeological identity with exaggerated machismo, especially the ability to "rough it." Petrie's self-described inclination to get dirty was a strategic aspect of his popularisation of field Egyptology (the focus of chapter 4). In actuality, first-hand did not mean digging. Despite being on site, Petrie rarely excavated, but operated similarly to the long-distance archaeologists before him. Petrie build upon existing labour structures to implement a hierarchical system in which he supervised labour at a (shorter) distance and trained male field students to do the same.

It is common knowledge that British Egyptology underwent critical changes after 1882 when the British military occupied Egypt, the Egypt Exploration Fund was established, and the French-controlled Egyptian Antiquities Service allowed British archaeologists to excavate in the Nile Delta. Standard accounts praise Petrie's quick transformation of archaeology into a "systematic" enterprise in the aftermath of these changes, although exactly *what* changed in his field practices has not been critically examined. Many cite Petrie's implementation of analytical tools, such as seriation (or sequence dating) and stratigraphy, his systematic study of pottery, his assembling a corpora of ancient remains for comparison, his use of photography, and his insistence on careful field-recording.[301] None of these were solely Petrie's inventions, nor are these accounts of innovation particularly accurate. As we saw earlier, stratigraphy has been adapted from geology

[299] Kuklick, 'After Ishmael'; Kuklick, 'Personal Equations'; Stocking, 'The Ethnographer's Magic: Fieldwork in British Anthropology from Tylor to Malinowski'.
[300] Petrie, *Methods & Aims*, 6–7.
[301] For example, Drower, *Flinders Petrie*; James, *Excavating in Egypt*.

to Egyptology as early as the 1850s.[302] With the exception of his 1891 fieldwork at Tell el-Hesy in Palestine, Petrie himself was not all that concerned with measuring and visualising stratigraphic sections.[303] Petrie's typological pottery sequences were also characteristic of object classifications in evolutionary anthropology, particularly the concept of "degeneration of form."[304] Therefore, these technical developments alone cannot fully explain the systemization of fieldwork under Petrie's watch.

There were considerable changes in British archaeological fieldwork in Egypt between the 1880s and the early twentieth century, but as this chapter argues, these changes had more to do with new forms of participation, new labour relations, and new spatial organisation. One new role was the excavator himself. Long-distance archaeology had relied on a division between fieldwork and analysis, the latter being the domain of the intellectual elite. Gavin Lucas has argued that there were two seemingly contradictory developments during this period. First, the separate roles of "fieldworker" and "interpreter" were blurred as figures like Petrie declared that they were now doing both. Archaeologists all the while continued to distinguish between the practices of fieldwork and interpretation in order to frame excavation as pure data collection and make archaeology appear to be a scientific enterprise.[305] This paradox gave Petrie the freedom to task others with digging while he attended to big-picture synthesizing practices, such as survey, measurements, and dating artefacts.

Petrie's productivity as director benefited from a labour hierarchy through which key aspects of excavation—observation, recording, and digging—were partitioned. One new group were British male field students who, from the 1890s, trained with Petrie in this new role of "excavator." Petrie and his male students could claim the scientific rigour and authority that came from being in the field, without getting very dirty. Their main task was the management of labour and field-recording. Large-scale excavations were contingent on the physical toil and learned knowledge of Egyptian workers, most of whom had far more archaeological experience. This period saw enormous socio-political changes in Egypt, including the gradual abolishment of corvée labour, the growth of a wage economy, and a diversifying industry of skilled and unskilled archaeological workers.[306] Older *ru'asa* mediated between British archaeologists and young, poor,

---

[302] See also Gold, 'Ancient Egypt and the Geological Antiquity of Man, 1847–1863'.
[303] Lucas, *Critical Approaches to Fieldwork*, 25; W.M.Flinders Petrie, *The Story of a 'Tel': A Lecture Delivered for the Palestine Exploration Fund* (London: Watt, for the Palestine Exploration Fund, 1892), 25.
[304] Alice Stevenson, '"We Seem to Be Working in the Same Line": A.H.L.F. Pitt-Rivers and W.M.F. Petrie', *Bulletin of the History of Archaeology* 22, no. 1 (2012): 9; Nathan Schlanger, 'Series in Progress: Antiquities of Nature, Numismatics and Stone Implements in the Emergence of Prehistoric Archaeology', *History of Science* 48, no. 3/4 (2010): 343–69; Sadiah Qureshi, 'Dramas of Development: Exhibitions and Evolution in Victorian Britain', in *Evolution and Victorian Culture*, ed. Bernard Lightman and Bennett Zon (Cambridge: Cambridge University Press, 2014), 261–85.
[305] Lucas, *Critical Approaches to Fieldwork*, 10–13.
[306] Nathan J. Brown, 'Who Abolished Corvee Labour in Egypt and Why?', *Past & Present* 144 (1994): 116–37.

Egyptian diggers and basket-carriers.[307] Around the turn of the twentieth century, Petrie began relying on foremen from Qift, known as Quftis, to manage the daily fieldwork. His head *ra'is* Ali Suefi often acted as supervisor in his place, managing fieldwork in Petrie's absence and reporting back to him.[308] Petrie exploited pre-existing labour relations and his hands-off approach allowed the Quftis to organise workers and reinforce divisions of labour.

Finally, the introduction of British women to the Egyptian field site from the 1890s onward shaped the gender politics of fieldwork. The first cohort of Egyptology students at University College London were women who came to Egypt to train, not as excavators like their male colleagues, but as "lady artists" tasked with copying inscriptions accurately. Hilda Petrie took on a privileged version of this role, increasingly sharing crucial tasks with her husband, including surveying, recording, measuring, drawing, writing, and co-managing fieldwork. Spousal collaboration therefore played a critical role in sustaining the efficiency of the archaeological labour machine.[309] Historians of archaeology have separately discussed the important roles played by Petrie's male students, the Quftis, archaeological labourers, and women on Petrie's excavations, especially Hilda Petrie as a "pioneer" for archaeological women.[310] This chapter considers how these roles interacted in the labour machine to chart the new social and spatial relations that fundamentally changed field practices and supported new forms of field expertise.

Previous chapters have shown that in earlier periods careful observation, recording, establishing trust, and communication of field knowledge was paramount to establishing Egyptological expertise. This chapter argues that these long-distance practices associated with second-hand witnessing became even more important during the shift to "first-hand" fieldwork. The male excavator aspired to become an expert witness to the credibility of excavations. The management of fieldworkers was part of a wider system of surveillance that utilised nearly all the techniques of disciplining described by Foucault, including the partitioning of individual workers, spatial arrangements, ranking individuals, set roles, repetitive tasks, daily time-keeping, hierarchical observation, and the power dynamics of the unequal gaze.[311] Applying Foucault's totalising approach to empire (for which Foucault had little interest), Timothy Mitchell shows that such

---

[307] Doyon, 'On Archaeological Labor in Modern Egypt'; Doyon, 'Archaeology through the Eyes of Egyptians'.
[308] Stephen Quirke, 'Interwoven Destinies: Egyptians and English in the Labour of Archaeology, 1880-2007', in *British-Egyptian Relations from Suez to the Present Day*, ed. Noel Brehony and Ayman El-Desouky, SOAS Middle East Issues (London: Saqi, 2007), 247–73; Quirke, *Hidden Hands*.
[309] Marilyn Bailey Ogilvie, 'Marital Collaborations: An Approach to Science', in *Uneasy Careers and Intimate Lives: Women in Science 1789-1979*, ed. Pnina G Abir-Am and Dorinda Outram (New Brunswick and London: Rutgers University Press, 1987), 104–25; Pycior, Slack, and Abir-Am, 'Introduction'.
[310] For an example of the latter, see Margaret Cool Root, 'Introduction: Women of the Field, Defining the Gendered Experience', in *Breaking Ground: Pioneering Women Archaeologists*, ed. Getzel M. Cohen and Martha Sharp Joukowsky (Ann Arbor: University of Michigan Press, 2004), 1–33.
[311] Michel Foucault, *Discipline and Punish: The Birth of the Prison*, trans. Alan Sheridan (New York: Pantheon Books, 1977), 141–49, 170–77.

forms of bodily regulation were implemented in military, education, sanitization, and agricultural modernisation projects in colonial Egypt.[312] Through similar observational mechanisms, colonial social scientists treated *fellahin* as objects of classification and taxonomy.[313] The regime of disciplining surveillance also controlled the *fellahin*—Bedouin and agricultural farmers—who laboured in archaeological excavations. Martin Willis argues it turned these Egyptians into "recipients of the archaeological gaze" and made them comparable to the antiquities they excavated. [314] Stephen Quirke's detailed recovery of the Egyptian labourers named in Petrie's archives reveals the extent to which recording practices within this regime of surveillance concealed the identities of the "hidden hands" involved. Quirke's important work points to the breadth of archaeological control in the field but does not provide a theoretical model to rethink Petrie's overall agenda. I draw on this literature but ground them contextually in what Petrie was actually doing in the field in his pursuit of archaeological expertise. What is often described as "first-hand" fieldwork by Petrie, I argue, it is better understood as short-distance observation and control of labourers.

This chapter examines how this system of surveillance, and the underlying power structures, actually functioned in practice. In part, I focus on Petrie's excavations for the Egypt Exploration Fund in the 1880s and the first field season by the British School of Archaeology in Egypt from 1905-06. I first discuss the importance of reliable witnessing in archaeological fieldwork during this transformative period, showing that Petrie's primary duties on site revolved around observation and the management of fieldwork. The common description of Petrie's excavations as "systematic" is both due to this labour hierarchy, and to the totalising synthesis of fieldwork which he could undertake on the spot by delegating to others. I show that pedagogy played an important role in developing new forms of expertise, contributing in particular to the masculinisation of the field. First-hand witnessing was also fundamentally tied to distrust of Egyptian labourers. Lastly, I discuss how marital collaboration was essential in the management of Egyptological fieldwork and that Hilda Petrie's presence made the excavation tent into a multipurpose space for domestic, analytic, and surveillance activities. These social and spatial arrangements were at the core of the shift to the field and helped create new expert witnesses who could rival Egyptological authorities in Britain. Petrie's emphasis on new field techniques, such as field-recording and sequence dating, were embedded in these larger structural changes. "Being there" became important for Egyptology—but not for the reasons traditionally assumed.

---

[312] Mitchell, *Colonising Egypt*.
[313] El Shakry, *The Great Social Laboratory*, X.
[314] Willis, *Vision, Science and Literature, 1870-1920 : Ocular Horizons*, 131.

From Long-Distance Archaeology to Direct Observations

To understand exactly what changed in Egyptian fieldwork after the 1880s, and what did not, we need to examine the excavator's locality. It is useful to start with that other "father of scientific archaeology" Lt-Gen. A.H.L.F. Pitt-Rivers. Pitt-Rivers' contributions to archaeological methodology has similarly been the subject of much debate, particularly concerning how he differed from his contemporaries. He is recognised as pioneering thoroughness and careful recording during field excavations. However, neither emphasis was entirely new, nor was the manner in which he excavated. His focus on attaining a "total record" of a field site is what sets him apart from his contemporaries, and this eye on totality also shaped his approach to evolutionary typologies of material culture.[315] Pitt-River's military background also informed his approach to fieldwork, both in his research focus on ancient weaponry, and his experience in the logistical organisation of men, land survey techniques, and terrain mapping. The integration of these three aspects were evident in his 1892 proposal for establishing a "permanent *Corps* of efficient workmen" for excavation whose skills in drawing and surveying would be essential.[316]

Historians have noted many parallels between Pitt-Rivers and Petrie in their approaches to fieldwork and engagement with objects. They were both responsible for training a generation of students in new field methodologies, both stressed careful field-recording, and regarded archaeological rigour primarily as a form of discipline. The two archaeologists knew each other and corresponded for nearly twenty years. They first met at an 1877 meeting of the Royal Archaeological Institute, where Petrie gave a paper on his survey of earthworks at Castlehill. Their similarities were noted by the General when he happened upon Petrie surveying the Great Pyramid in 1881 and said to the young archaeologist "we seem to be working in the same line." Petrie clearly admired the General's approach to fieldwork, and indeed thought of it as the epitome of scientific rigour, on one occasion writing "if you look at Pitt-Rivers' 'Excavations at Bokerley Dyke' you will know what excavating means."[317] However, the degree to which Pitt Rivers directly influenced Petrie is regularly overstated, particularly because both men have been elevated as the "fathers" of systematic archaeology. Alice Stevenson shows that they actually differed in many of their practices. Most of their similarities arose from "shared intellectual milieu," such as participation in the same scientific societies and networks, and being exposed to similar theories, such as Spencerian evolutionary gradualism. Likewise, their differences can be explained from the geographical contexts in which they practiced.[318]

---

315 Lucas, *Critical Approaches to Fieldwork*, 20–25.
316 Christopher Evans, 'Soldiering Archaeology: Pitt Rivers and "Militarism"', *Bulletin of the History of Archaeology* 24, no. 4 (2014): esp. 5.
317 Stevenson, "'We Seem to Be Working in the Same Line'", 4.
318 Stevenson, "'We Seem to Be Working in the Same Line'".

Extending Stevenson's argument, I wish to emphasize additional similarities between Pitt-Rivers and Petrie that help contextualise this transformative period in field excavations. First is the extent to which both men were influenced by geological fieldwork. In a series of turn-of-the-century reminiscences about the progress of archaeology, Petrie wrote about the "growth of archaeology in contact with geology."

> The conception of the history of man being preserved to us in material facts, and not only in written words, was quite disregarded until the growth of geology had taught men to read nature for themselves, instead of trusting to the interpretations formed by their ancestors…It is only within the present generation that it has been realized that whenever man has lived he has left the traces of his action, and that a *systematic and observant study* of those remains will interpret to us what his life was, what his abilities and tastes were, and the extent and nature of his mind.[319]

He then cited not only Pitt Rivers, but also Richard Colt Hare and William Greenwell (who trained Pitt Rivers), as the "pioneers of systematic excavation." Petrie appealed to prehistoric archaeology as an Egyptologist in search of legitimisation in much the same way that prehistoric archaeologists appealed to geology from the 1850s through 1870s.

Another related similarity between Pitt Rivers and Petrie was their own locality within the field site. Pitt Rivers emphasized that the excavator needed to be present on the site—but not constantly watching over all the digging. Gavin Lucas suggests that historians "cannot accuse [Pitt Rivers] of being an armchair archaeologist," however concedes that his supervisory role in fieldwork when he started at Cranborne Chase was very similar. Pitt Rivers described the process:

> The work of superintending the digging — though I never allowed it be carried on in my absence, always visiting the excavations at least three times a day, and arranging to be sent for whenever anything of importance was found — was more than I could undertake single-handed, with the management of the property and other social duties to attend to, and I had by ample experience been taught that no excavation ought ever to be permitted except under the immediate eye of a responsible and trustworthy superintendent.[320]

Pitt Rivers' intermittent presence in the actual field trenches was reminiscent of Petrie, who always maintained close proximity to fieldwork, but rarely excavated himself.

Despite rarely digging, both men are associated with first-hand fieldwork partly because they excelled at disassociating themselves from their predecessors and antithetical contemporaries. Pitt-Rivers criticised the lack of thoroughness during previous excavations at Cranborne Chase,

---

319 W. M. Flinders Petrie, 'Archaeology', in *The Progress of the Century*, ed. Alfred Russel Wallace (New York and London: Harper & Brothers, 1901), 73–77; W.M.Flinders Petrie, 'Archaeology in the Past Century', *Scientific American*, no. 1308 (26 January 1901): 20960–61.

320 Lt-Gen. A.H.L.F Pitt Rivers, *Excavations in Cranborne Chase near Rushmore on the Borders of Dorset and Wiltshire*, vol. 1 (Rushmore: Printed privately, 1887), xvii.

performed by John H. Austen in 1867. Pitt Rivers cited this excavation as his impetus for recording artefacts with what might have appeared to be "unnecessary fulness" and "in greater detail than has been customary."[321] Petrie similarly worked on several Delta mound sites already excavated by his EEF colleague Edouard Naville because he did not believe Naville performed a sufficient enough search. Petrie was also particularly good at distinguishing himself from previous long-distance archaeologists. He only cultivated his attitude towards first-hand experience gradually, after working in Egypt for many years. When he first arrived in Egypt in 1880, Samuel Birch wrote him, several times, asking him to "copy inscriptions whenever he had the opportunity."[322] Petrie happily obliged, sending Birch copies of inscriptions from tombs in Giza and detailed plans and descriptions of recently excavated pyramids in Sakkara.[323] In his 1893 autobiography he recalled finding fragments of a colossal statue of Rameses II when he excavated Tanis (biblical Zoan) in 1884. He claimed that with the assistance of accurate field records, "anyone can draw their own conclusions as to the arrangement of the place, and the positions of the monuments, better in their arm-chair than by wandering over the chaos of dilapidation in the plain of Zoan."[324]

Petrie's earlier appraisals of long-distance work offer a striking contrast to his 1904 handbook. There he wrote that "the most needful of all acquisitions" for a good excavator is "archaeological experience." This could never be achieved by studying objects from the armchair.

> When I first came to Egypt, Dr. Birch begged me to pack and send to him a box of pottery fragments from each great town, on the chances that from the known history of the sites some guess could be made as to the age of the objects; so complete was the ignorance of the archaeology a quarter of a century ago.[325]

Petrie initially agreed that the expertise to judge artefacts was not reliant on one's physical proximity to an archaeological site. Twenty years later, he argued the opposite: expertise could *only* be earned through an ongoing, physical presence in the field. Field records still communicated explicit (or written) knowledge to readers. However, the ability to produce explicit knowledge—to know what to observe, how to observe it, how to write it down, and how to make sense of it —required tacit field knowledge.[326] Petrie insisted that the field could no longer be communicated nor transferred long-distance; it had to be experienced first-hand.

---

[321] Ibid., 1:xvi–xvii; Lucas, *Critical Approaches to Fieldwork*, 19–20.
[322] Drower, *Flinders Petrie*, 44; Petrie, *Seventy Years in Archaeology*, 27.
[323] Petrie to Birch, 27 January 1881, 4713; Petrie to Birch 11 March 1881, 4714; Petrie to Birch 30 April 1881, 4715 and 4715b, Middle East Library, British Museum.
[324] Sir William Mathew Flinders Petrie, *Ten Years Digging in Egypt, 1881-1891*, second revised edition (London, England: The Religious Tract Society, 1893), 32.
[325] Petrie, *Methods & Aims*, 4.
[326] On tacit versus written knowledge more broadly, see Harry Collins, *Tacit and Explicit Knowledge* (Chicago: University of Chicago Press, 2010), 1–12.

The agenda of first-hand fieldwork set out in *Methods and Aims* did not necessarily reflect what was happening in the field. The handbook was part of Petrie's wider campaign at the turn of the twentieth century to put to paper a series of shared principles. He rallied scientists, archaeologists, and especially would-be archaeologists around the idea that archaeological fieldwork was scientific. He had done more than most to construct this new discipline of field archaeology. In *Popular Science Monthly* he wrote that "the work of recent years in Egyptology is really the history of the formation of a science." Petrie was referring to his own introduction of the "methods of science" to Egyptian archaeology, specifically, "exact observation and record, comparison, and the strict weeding out of hypotheses."[327]

Petrie claimed to personally implement two critical changes to the focus of fieldwork in Egypt. The first was careful field-recording, which he claimed was "the absolute dividing line between plundering and scientific work, between a dealer and a scholar."[328] This was most necessary in Egypt, where Petrie argued other archaeologists, such as Edouard Naville, were digging up sites thoughtlessly in search of inscriptions.[329] The second was Petrie's emphasis on "material facts." He was explicitly borrowing this from geology.

> The conception of the history of man being preserved to us in material facts, and not only in written words, was quite disregarded until the growth of geology had taught men to read nature for themselves, instead of trusting to the interpretations formed by their ancestors…[330]

Materials remains, such as pottery, stoneware, flint tools, and other domestic items, were "the most conclusive evidence" of the activities of past populations. Archaeological objects could speak for themselves. In contrast, Petrie believed written inscriptions were "the least dependable." They were like witnesses in legal cases—full of human bias and error.[331] It is notable that like Petrie, Pitt-Rivers likened archaeological evidence to legal evidence in his 1878 investigations of earthworks in Folkestone. He wrote in the corresponding report: "In order that evidence obtained may be strictly reliable it should if possible, be of a character that might be acceptable in a court of justice."[332]

To reliably observe and record objects *in situ*, an archaeologist had to be present on the field site, ready to verify the process of excavations. This was yet another lesson learned from geology and Palaeolithic archaeology. Gone were the days of second-hand witnessing, which was

---

[327] W.M.Flinders Petrie, 'Recent Years of Egyptian Exploration', *Appleton's Popular Science Monthly*, April 1900, 625.
[328] Petrie, *Methods & Aims*, 48.
[329] Petrie, 'Archaeology', 77.
[330] Ibid., 73.
[331] W. M. Flinders Petrie, 'Archaeological Evidence', in *Lectures on the Method of Science*, ed. T.B. Strong (Oxford: Clarendon Press, 1906), 218–25.
[332] Lt-Gen. A.H.L.F Pitt Rivers, "Excavations at Caesar's Camp, Near Folkestone, Conducted in 1878', *Archaeologica* 47 (1883): 429–65; Christopher Evans, 'Soldiering Archaeology: Pitt Rivers and "Militarism"', 6. Pitt-Rivers himself italicized the final statement.

characteristic of long-distance investigations. The readiness to be a reliable witness was a key feature of this transformative period in archaeology. For instance, it was largely due to the first-hand witnessing of John Evans and Joseph Prestwich in 1859 that the flint tools at St Acheul were verified, leading to the widespread geological acceptance of human antiquity in Britain. Evans and Prestwich also used photographs to "corroborate [their] testimony."[333] Corroboration became the standard in reporting geological and archaeological discoveries. Pitt-Rivers named "two excellent witnesses," the ethnologist Carter Blake and the clergyman Rev. Dunbar Isidore Heath, in his recording of the timber piles near London Wall in 1866. The two witnesses were present to "corroborate the accuracy" of the General's observations when the paper was read at a meeting of the Anthropological Society of London.[334] Pitt-Rivers took the same approach in 1881 when he claimed to uncover flint implements *in situ* in the Valley of the Kings. Recognising the gravity of his discovery, he first assured his readers that he "had qualified [himself] for the search by previous investigations of the like kind," and having worked flints in the manner pioneered by John Evans, he had,

> …acquired a thorough knowledge of the fracture of the flint, a qualification of the first necessity to anyone who proposes to examine a section of gravel for this purpose, because…it requires the eye of an expert to distinguish from amongst the innumerable fragments of chert…[335]

He moreover called upon geologist J.F. Campbell to be a reliable witness.

> Realising the importance of obtaining a competent witness to the position of these flints, I at once communicated the result to Mr. Campbell, F.G.S., who was stopping at Luxor. He accompanied me to the spot on the 6th, and satisfied upon the point by chiselling several flakes out of the gravel with his own hands; verifying the observation with respect to the position of the bulbs and facets as the flakes were removed from the matrix.[336]

As Christopher Evans notes, the collective "adjudication of evidence" and burden of "demonstrable proof" was a relic of Pitt-Rivers' military and legal background. It was moreover a defining feature of Palaeolithic archaeology in Britain during this period, as there was "dispute and contestation" over the authenticity of flint tools and the misinterpretation of site sequences.[337] Yet

[333] Clive Gamble and Robert Kruszynski, 'John Evans, Joseph Prestwich and the Stone That Shattered the Time Barrier', *Antiquity* 83, no. 320 (2009): 461–75.
[334] Lt-Gen. A.H.L.F Pitt Rivers, 'A Description of Certain Piles Found Near London Wall and Southwark, Possibly the Remains of Pile Buildings', *Anthropological Review* 5 (1867): lxxiv; 'Soldiering Archaeology: Pitt Rivers and "Militarism"', 6.
[335] Lt-Gen. A.H.L.F Pitt Rivers, 'On the Discovery of Chert Implements in Stratified Gravel in the Nile Valley near Thebes', *Journal of the Anthropological Institute of Great Britain and Ireland* 11 (1882): 389.
[336] Ibid., 390.
[337] Christopher Evans, 'Soldiering Archaeology: Pitt Rivers and "Militarism"', 6–7.

not every eye-witness account was given equal weight, thus there was the added necessity of proving a testimony was reliable.

Petrie had been directly exposed to this system of verification. Before working in Egypt, Petrie had his first taste of fieldwork when he accompanied his close friend, the archaeologist Flaxman C.J. Spurrell, on his explorations of Crayford. He was asked to "act as witness to his discoveries" of flints *in situ*. Although Petrie insisted that Spurrell invite "more expert witnesses to authenticate his discoveries," such as Pitt Rivers, John Evans, Augustus Franks, or Edward Burnett Tylor.[338] This explains why, after his chance encounter with Pitt Rivers during his survey of the pyramids, Petrie immediately wrote in his journal that he was glad he now had such an excellent "witness of some things which I should not get people in England to believe very readily perhaps if only on single testimony."[339] It was not simply the act of witnessing that was important here. Equally important was the social capital of the person doing the witnessing. More than anything else, Petrie's first years of excavating in Egypt were entirely informed by the urgency of becoming an expert witness—this required being on the field site and building his archaeological reputation in Britain.

The names Pitt Rivers and Petrie used for themselves, the "superintendent" and "master" respectively, supported their managerial roles. Their primary duties were organising the various people under their command by ensuring discipline, rigour, and productivity, often by surveilling at a short distance. These tasks built on those of long-distance archaeologists. The excavator's activities involved delegating to workers in lower ranks and instructing them on where to dig, how to dig, how to observe, and of course, how to record. It therefore also necessitated trust in every member of the field team. This is one area in which Petrie reported additional challenges. Petrie suffered from extreme paranoia, believing archaeological sites were under constant threat, and that other archaeologists were undermining his productivity, or seeking to discredit him. This paranoia worsened his intrinsic racial distrust of Egyptian labourers, who he suspected of trying to deceive him. As we shall see, he implemented safeguards to protect himself and ensure excavations ran smoothly. Perhaps the least obvious was his use of field assistants and students to maintain consistency in his absence.

The Field as a Training Site

A major element in the growth of field archaeology in the late nineteenth century was the introduction of field students. Since its establishment in 1882, the EEF trained young male

[338] Stevenson, "'We Seem to Be Working in the Same Line'", 7.
[339] Drower, *Flinders Petrie*, 41.

archaeologists by sending them on excavations alongside experienced colleagues. Francis Llewellyn Griffith, Percy Newberry, Howard Carter, and many more Egyptologists experienced their initial fieldwork in this way, however the EEF never explicitly promoted field training as a clear objective. Petrie hoped to change this. The grandson of prominent cartographer Captain Mathew Flinders and son of electrical engineer William Petrie, from his childhood, Flinders Petrie was acquainted with the benefits of first-hand surveying. He had surveyed Stonehenge with his father in 1872 and spent several more years surveying and mapping various earthworks in Britain. This is what brought him to Egypt in 1880, to triangulate, measure, and map the Giza pyramids, and ultimately, to challenge the metrological theories of his father's friend and colleague, Charles Piazzi Smyth.

Unlike many of his Egyptological contemporaries, Petrie was home-schooled and self-taught, and prided himself on being self-made. His autobiography recalls that after his plans of Stonehenge were rejected from the Society of Antiquaries in 1872, he eventually "got well on my feet without any help."[340] He spent the subsequent years carving out a niche for himself in the emerging discipline of field archaeology. In outlining the ideal characteristics of an excavator, Petrie therefore stressed that formal education was not necessary, as long as the student was intelligent, patient, eager to learn, and above all, willing to commit time to the field. He was appointed Professor of Egyptian Archaeology at University College London (UCL) in 1892, and shortly thereafter, established the Egyptian Research Account (ERA). The ERA was initially intended as a scholarship fund to bring promising young men on excavation to apprentice with Petrie. His 1893 inaugural lecture established the need for such "trained hands," noting "no greater mistake is made than supposing that an excavator must needs be a scholar."[341]

In order to get support for an informal field school, from both the scientific elite and British public, Petrie explicitly linked training students to the urgent preservation of antiquity.[342]

> As to the mode of excavating it is still generally the custom to leave much in the hands of native overseers, and often the European in charge does not live on the work. Until it is recognised that it is unjustifiable to disturb antiquities without recording everything that can be observed, we shall remain in the state of mere plunderers, without a claim much higher than that of the treasure-hunting natives. In Egypt, hitherto, nearly all official excavations have been made by trusting entirely to uneducated and dishonest native overseers; and while the laws are strict concerning Europeans working, the natives plunder almost at their will under one pretext or another. With suitable regulation it has been proved practicable to entirely excavate a site without any loss or pilfering of the smallest objects by the natives; and such excavation, entirely under trained and educated observers, either native or foreign, should be the aim in all future work.[343]

[340] Petrie, *Seventy Years in Archaeology*, 16.
[341] This lecture is reprinted in Janssen, *The First Hundred Years*, 98–102.
[342] The preservation theme will be discussed more in chapter 4.
[343] W.M.F.Petrie, "The Thieving of Antiquities," *Nature* 48, 26 October 1893, 613-14.

Petrie's juxtaposition between trusting "uneducated and dishonest native overseers" and "trained and educated observers" was deliberate. He made an even longer plea in the *Times* repeating that there was a crucial difference "whether it be an Arab or a trained observer" that presides over the excavation process. Artefacts were worthless unless their exact position is recorded accurately, and, he argued, only the trained observers were capable of such detailed pencil work.

> To avoid this prevalent system of mere plundering, trained hands and heads are needed to observe and record. Such is the scarcity of suitable workers at present that even the Egyptian Government is obliged to leave most of its excavation in the hands of natives, from whom no record is ever obtained or expected. Before we can begin the salvage of the wreck, which is breaking up fast before our eyes, we need men who can put information in a permanent form as they discover it. In short, scientific training is indispensable…There is no lack of men willing to do such work; several have applied to me since Egyptology has been at last publicly established, at this college. My earnest wish is to be able to encourage such workers and to see a sound British school of scientific archaeology established in Egypt…The aim of the Egyptian Research Account which is now established is not to undertake great clearances or exploits in the county, but to fit men for work of the highest class archaeologically, and at the same time benefit our knowledge and museums as far as may be, by means of their excavations.[344]

Petrie was not calling for a major overhaul of archaeological fieldwork. Rather, he was arguing that it was necessary to create a British ensemble of reliable eyewitnesses like himself, who could account for the veracity of excavations in Egypt. His insistence that "no record is ever obtained or expected" from native labourers and foremen was because Egyptians were systematically excluded from participating in this way, not because they were incapable of doing this work.[345] The main issue at stake was still trust. British audiences did not trust native Egyptians to not steal, let alone report how artefacts were found accurately. Petrie's primary motivation in establishing the ERA was not the preservation of antiquity or recording scientifically—although these were deliberate legitimising and fundraising tactics—but about implementing a hierarchical system of overseeing the native labourers to increase overall productivity.

Field students were taught proper ways to dig, and how to measure and record what was found, and that developing a hypothesis was a prerequisite to digging. This aspect of the field training redistributed the supervisory role and showed students how to use Egyptian labourers as instruments of observation.

> An excellent rule in excavating is never to dig anywhere without some definite aim. Form at least some expectation of what may be found; and so soon as the general clue to the arrangement is known, have clearly in the mind what you expect to find

[344] W.M.F.Petrie, "The Rescue of Egyptian History," *The Times*, 16 October 1894, 6.
[345] The first known examples of Quftis recording in field notebooks during foreign-led excavations was under the supervision of American archaeologist George Reisner in 1911, see Doyon, 'Archaeology through the Eyes of Egyptians'.

> and what is the purpose of every separate man's work…Far better to have some theory or working hypothesis, and labour to prove it to be either right or wrong, than simply remain in expectancy…And the workmen should be encouraged to know what to expect beneath the surface, as it prevents their destroying the evidences.[346]

Petrie's students learned this system of delegation, and in turn, passed it down to new students and colleagues. Archaeologist David G. Hogarth never trained directly with Petrie but claimed that it was "largely through becoming known to Petrie and living with men who had served apprenticeship to him, I had learned to dig." He added, "when I set foot first in Egypt, I had no method in such search, not any understanding that the common labourer's eyes and hands and purpose must be extensions of one's own."[347]

The ERA continued to sponsor individual students until 1905, however, Petrie's vision for a "scientific school" was more fully realised in 1905 when he and Hilda established the British School of Archaeology in Egypt (BSAE), an offshoot of the ERA that also supported Petrie's fieldwork. The BSAE was promoted as the first official training program in "practical" archaeological fieldwork. This induction into the field was part of a wider pedagogical plan, which included *Methods and Aims*, published only a year earlier. It was also in 1904 that Petrie hired Margaret Murray, his first female student at UCL, to teach students in the classroom in his absence. Murray instructed them in Egyptian history, languages, and artefact analysis, and generally prepared them for their fieldwork in Egypt.[348] These training initiatives introduced shared objectives, practices, and ideologies to unite field archaeologists and produce a new generation of male "excavators" who could direct fieldwork and become expert witnesses themselves. Field students were therefore crucial for Petrie's overall productivity. With trusted and trained eyes managing excavations on his behalf, Petrie could seemingly carry out, and publish on, multiple excavations in a single field season.

To understand how this system of delegation really took shape, it is useful to look at the first field season of the BSAE from December 1905 through to April 1906. It was thoroughly typical of the Petries' fieldwork during this period, in that it was fast. The Petries recorded their journey in their shared journal. Having left London on November 7, the couple arrived in Naples on the twenty-first where they met their two students for the season, Thomas Butler-Stoney and Claud Gilbart-Smith.[349] They all shipped to Cairo together, and Hilda wrote to friends that the

---

[346] Petrie, *Ten Years Digging in Egypt,* 160–61.
[347] David G. Hogarth, *Accidents of an Antiquary's Life* (London: Macmillan and Co., Ltd., 1910), 19.
[348] Sheppard, *The Life of Margaret Alice Murray:*, 95–96; Kathleen L. Sheppard, 'Margaret Alice Murray and Archaeological Training in the Classroom: Preparing "Petrie's Pups"', in *Histories of Egyptology: Interdisciplinary Measures* (London and New York: Routledge, 2015), 113–28.
[349] Petrie only refers to these students as T. Butler-Stoney and C. Gilbart-Smith. My research suggests their full names were Thomas Butler-Stoney (1875-1917) and Claud Denham Gilbart-Smith (1881-1947).

students were "full of questions and anxious to learn, so our hours were very full." They arrived in Cairo on the twenty-sixth and Hilda, Butler-Stoney, and Gilbart-Smith began daily Arabic lessons, and spent a long morning in the Boulaq museum. Meanwhile Petrie began administrative preparations for the season. Upon arrival, he met with Gaston Maspero to "get business settled," presumably to discuss his permit and labourers. They spent three days in Cairo shopping and meeting with people. He wrote in his journal how relieved he was that Ramadan had shifted earlier in the autumn and was no longer interfering in his pre-excavation preparations, as it had for fifteen years. The next day they did some shopping and as usual, Petrie visited the houses and shops of some of the better-known antiquity dealers in Cairo. All together they visited Lord Cromer, a patron of the BSAE, and then proceeded to the Pyramids to collect fifteen of "our best Arabs" for excavations.

On the morning of the twenty-ninth the Petries took the train to the village of Shibin al Qanater on the eastern side of the Delta. They were accompanied by the two students and "20 men who turned up in Cairo." They sent the Egyptian workers to collect their boxes, canteens, and tents, which had already arrived at Suez. Meanwhile the Petries and the students proceeded to walk across "a couple miles of cultivation" to Tell el-Yahudiyeh. They set up tents for the students and food and built a small hut for the Petries and "the best of the antiquities." The labourers "built two or three single rooms for themselves." The next day thirty-seven more men arrived at Tell el-Yahudiyeh from Qift, and excavations started promptly.[350]

Despite the later success of the BSAE which produced a slew of established Egyptologists, the first year, which is rarely discussed, is better described as trial-and-error. Because Petrie had been grooming male excavators through the ERA for a decade, the BSAE's first field season similarly functioned like an informal apprenticeship. Little is known about the first two field students, who were in their late twenties and early thirties respectively, because neither formally pursued Egyptology afterwards. Gilbart-Smith came from a privileged background, having studied at Harrow School before graduating with a BA in the Historical Tripos from Trinity College, Cambridge, in 1902. He subsequently worked for the Ministry of Education in Cairo.[351] Butler-Stoney was born in Bath and came from a more modest Irish upbringing. He took after his artist father to become an illustrator and painter. He attended the Royal Academy from 1895 to 1901 where he received several first-place silver medals.[352] He then illustrated a children's book *The Brave*

[350] Petrie Pocket Diary, November 1905, 115.9.26.105-9, Petrie Museum of Egyptian Archaeology, UCL; Petrie Journal, 17 November 1905 and 18 December 1905, 1-6, Griffith Institute, University of Oxford.
[351] John Venn and J.A. Venn, eds., *Alumni Cantabrigienses: A Biographical List of All Known Students....at the University of Cambridge, from the Earliest Times to 1900*, vol. 2, part 3 (Cambridge: Cambridge University Press, 1947), 45. Email correspondence with Jonathan Smith, Archivist at Trinity College, Cambridge, 28 November 2019.
[352] "The Awards in the Royal Academy Schools Competition," *The British Architect*, 18 December 1896, 412; "Passing Events," *The Art Journal*, Dec 1897, ii.

Old Duke of York (1901) before joining the Petries in Egypt. He subsequently attended the Reading University College Officer's Training Corps in 1913 and fought in WWI with the Irish Guards and died from battle wounds.

According to Hilda, in the first week or so, Butler-Stoney assisted at Tell el Yahudiyeh "in sundry things." He spent his first days learning Arabic, doing oil-paintings, and fetching supplies from Shibin al Qanater. However, neither student actually trained directly under Petrie, but were rather put under the tutelage of a trusted friend, Reverend John Garrow Duncan, who arrived shortly after excavations started. Duncan was an ordained minister from Aberdeen with strong interests in biblical archaeology in Egypt. Petrie was previously assisted by Duncan during his 1894 excavations in Naqada, where it was noted that he was an "active and precise observer, making excellent notes of the graves."[353] Duncan was once again brought on to fulfil this role, although this time he also took charge of directing Petrie's field students.

Soon after the field season started though, the teams were split. The Petries focused their season on excavating sites that had previously been excavated by Edouard Naville, so that Petrie could make his own (often opposing) conclusions about the identifications of these mounds. They first spent eight weeks at Tell el Yahudiyeh where they claimed to partially excavate the Temple of Onias, a Hyksos-period camp and fortification wall, and the associated ancient Jewish cemetery previously excavated by Naville and Francis Llewellyn Griffiths in 1887. Once they determined that the water level was too high to continue at Tell el Yahudiyeh, they moved to Tell er-Retaba in early January for nine weeks, claiming it was the biblical city of Ramses. They then moved back to Tell el-Yahudiyeh to finish work, and finally, joined the other field team for a week at Saft el Henneh.

Duncan was instead sent along with Gilbart-Smith to excavate several small cemetery sites, and Butler-Stoney to do some of the drawing. The latter's field season was in essence, an exploration of other possible Jewish mounds in the region (**Figure 3.1)**. They first set up their base camp at Belbeys for approximately ten weeks (early December to mid-February) and walked daily to several mound sites in the area. The first mound was an ancient fortification site about an hour's walk north west of Belbeys called Tell Shaghanbeh. It was mostly under the modern village Shaghanbeh, but Duncan claimed it was a burial site known as Burru el Yusef, "the pits of Joseph." They next excavated in Gheyta, a small village two miles south-east of their camp (apparently fifteen minutes by foot), which contained a Roman period cemetery previously identified by Naville by the names Tell Yehud and Vicus Judaecum. This was followed by some time at Tell Sadun and then an unnamed *gebel* (small hill) between Tell Sadun and the Ismailiyah Canal. From February 18 to early April, Duncan's team then set up camp at Saft el Henneh, another modern village which

[353] W.M.Flinders Petrie and James E. Quibell, *Naqada and Ballas* (London: Bernard Quaritch, 1896), vii.

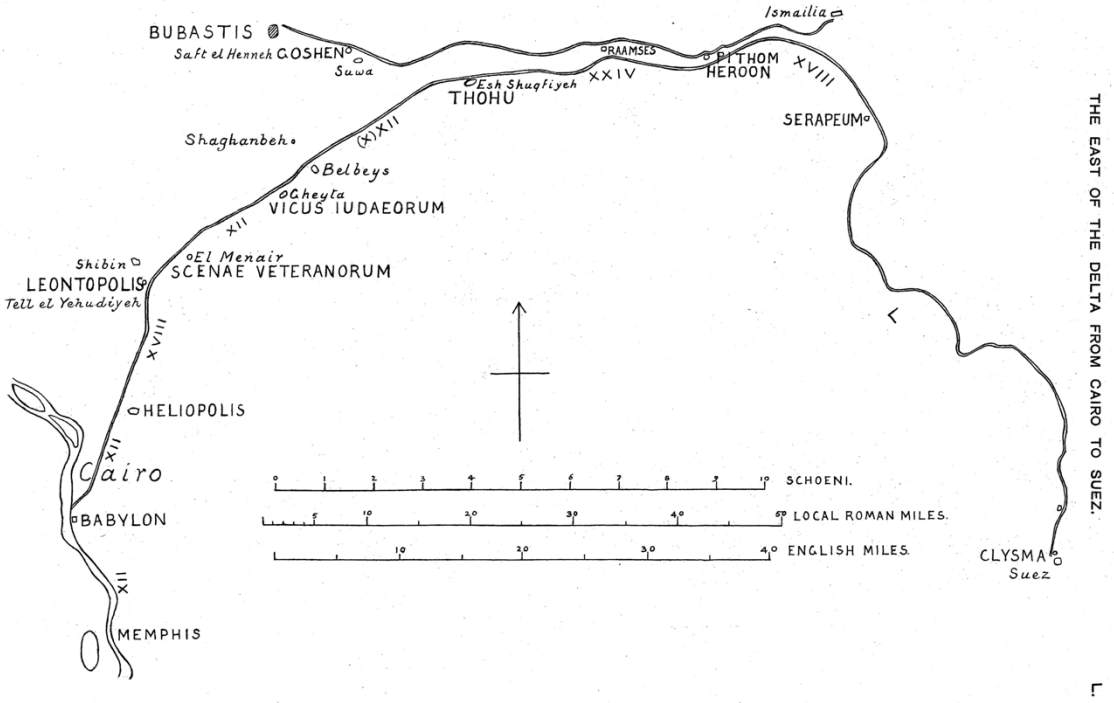


Figure 3.1. Map of the Eastern Delta, showing sited excavated by the British School of Archaeology in the field season 1905-06. The Petries excavated Tell el-Yahudiyeh and Tell er-Retaba (Ramses). Duncan and Gilbart-Smith excavated Belbeys, Suwa, and Saft el-Henneh (Goshen). From W.M.F.Petrie, *Hyksos and Israelite Cities* (London: Office of the School of Archaeology, University College, 1906), Pl. L, p. 66.

Naville had identified as the capital city of the biblical "District of Goshen." Looking for cemetery sites associated with this once important capital city, the team spent approximately seven weeks digging up a large *gizereh* (sandy island) that ran between the villages of Saft el Henneh and Suwa. They excavated three weeks along the edge closer to Saft and four weeks in an area closer to Suwa.

Duncan described the *gizereh* fieldwork in in the final excavation report. He was charged with delegating to Gilbart-Smith daily tasks. Both their roles were focused on the organisation and separation of labourers, with the goal of efficiency, and the measuring and recording of graves.

> On examining the cemetery we adopted the most thorough method of spreading the workmen over it, allotting to each pair a space of four to six metres wide, and beginning at the extreme eastern edge. By frequent measurement and recording of the work of each group throughout the day, the workmen were enabled to deposit the sand immediately behind them, so that at the close of operations the aspect of the *gezireh* remained comparatively unaltered, though almost every foot of it had been turned over and carefully examined…At a later period we transferred out operations to the western edge, and followed the same method, working towards the centre, until we found burials of so late a date and so uninteresting a character, that we decided to abandon this place for the *gezireh* of Suwa about a mile distant.[354]

[354] W.M.Flinders Petrie and J. Garrow Duncan, *Hyksos and Israelite Cities* (London: Office of School of Archaeology, University College, 1906), 35.

Duncan benefited from "the valuable assistance" of Gilbart-Smith "who undertook the measuring and helped me with the recording." Afterwards, Butler-Stoney drew many of the objects found, while the majority were drawn by Hilda Petrie.

This was a lot of ground to cover in a period of seventeen weeks and complicates the description of "systematic" excavation in the report jointly penned by Petrie and Duncan. At Gheyta alone, Duncan's team excavated at least 494 graves, and at Saft another 725. This extreme productivity was only achievable through divisions of labour. For Flinders Petrie, "[his] own part was the surveying, and unravelling the history, of the important structures that we found, as well as directing workmen during most of the season, and obtaining the photographs here published." Hilda Petrie was responsible for drawing the majority of maps and especially artefacts. Like Petrie, Duncan also directed fieldworkers, recorded, and delegated to the two field students who "divided their time between the two camps, according to the requirements of the work."[355] It seems that Butler-Stoney's main role was as a copyist, doing most of the drawings on Duncan's excavations (some were also completed by Hilda), and all the drawings of the hundreds of graves excavated at Gheyta. Gilbart-Smith was trained in the role of 'excavator.' Petrie wrote that "after some experience in managing the workmen, [Gilbart-Smith] also took charge of a site" (although it is not entirely clear which one). Gilbart-Smith measured many graves and assisted Duncan with the "recording" of the cemetery at Saft and made lists of objects collected. This would imply overall three main roles for the foreign archaeological team, the lead excavator (Flinders Petrie and Duncan), the artist or copyist (Hilda Petrie and Butler-Stoney), and excavator in training (Gilbart-Smith). Of course, in this hierarchy, Flinders Petrie was still the director of the exaction, and the only one who received wider recognition in the media.

Duncan's notebook of fieldwork at Gheyta, and his description of the fieldwork in the final report, reveals more about how labour hierarchies operated in this first season of the BSAE. It was Duncan who did all the majority of the pencil work to measure and record hundreds of burials, some of which he sketched in his notebook with descriptions of the antiquities found in them. It would seem that Gilbart-Smith's role was limited to assisting Duncan, and for the most part, he was focused on learning how to manage the labourers. This management was hierarchical. Individual foremen were put in charge of uncovering tombs. Duncan recorded the tomb numbers alongside the names of "finders" responsible for uncovering it **(Figure 3.2).** Such entries for "find-groups" tended to only give single names, and as Quirke explains, this recording system likely concealed "the presence of a pair or trio of workers, as in the man-and-boy teams.[356]

[355] Ibid., 1.
[356] Quirke, *Hidden Hands*, 169.

Conversely in Flinders Petrie's field notebooks of fieldwork at Tell el-Yahudiyeh, the majority of pages are devoted to noting measurements, making calculations, drawing initial sketches, and other kind of surveying that would enable him to, in his own words "unravel" the history of the site. His was a much more totalising approach. From his own descriptions of this survey work, it is easy to imagine him walking over the mound, observing changes in soil, remnants of architecture, and surveying the mound for new areas to excavate. Yet there is little to no reference in Petrie's notebooks or reports about the excavations that were happening simultaneously on the other side of the mound, where a large group of foreman and labourers were excavating hundreds of graves. They were likely under the watch of Ali Suefi, Petrie's head *ra'is*.

Originally a fisherman from Lahun, Ali Suefi had been regularly training workers on Petrie's excavations since 1891. Hilda recorded that in the 1900 excavations at Araba, Suefi was "very useful in working with 4 gangs of men at once, and training new recruits from Quft," which that season alone amounted to almost 200 workers.[357] It appears that at Tell el-Yahudiyeh Suefi oversaw a smaller group of about thirty-seven Quftis. Hilda Petrie described the efficiency of work on the temple mound in the first two and half weeks. Suefi oversaw a " line of men, turning back stuff as they went." They "began on the eastern edge of the early temple site and have turned over a considerable portion of it."[358] Petrie would return to record the names, finds, and groupings of workers, and how much they were paid (**Figure 3.3**). While Petrie was in his excavation tent analysing artefacts, or surveying another area of the site, or on a day trip for supplies, Suefi was his proxy on the ground, ensuring all foremen and labourers were following orders.

There was occasional resistance when Suefi tried to get labourers to work harder or faster. In one instance, they apparently all stopped working, found Petrie in his tent, and asked "whether Ali was their master or [Petrie]."[359] Petrie described Suefi as the most "faithful, quiet, unselfish right hand to help. As far as character goes he is really more to me than almost any of my own race. Few men, I believe, have worked harder for me or trusted me more."[360] Suefi's English was not perfect, but it was better than Petrie's Arabic, and he often translated between Petrie and the native labourers. It was also through Suefi's observational skills and intimate knowledge of ancient ruins that Petrie knew where to dig.

[357] Ibid., 78–79.
[358] Petrie Journal, 18 December 1905, 6, Griffith Institute, University of Oxford.
[359] Quirke, *Hidden Hands*, 76.
[360]Cited in Drower, *Flinders Petrie*, 226; Quirke, 'Interwoven Destinies', 264; Quirke, *Hidden Hands*, 75–79.

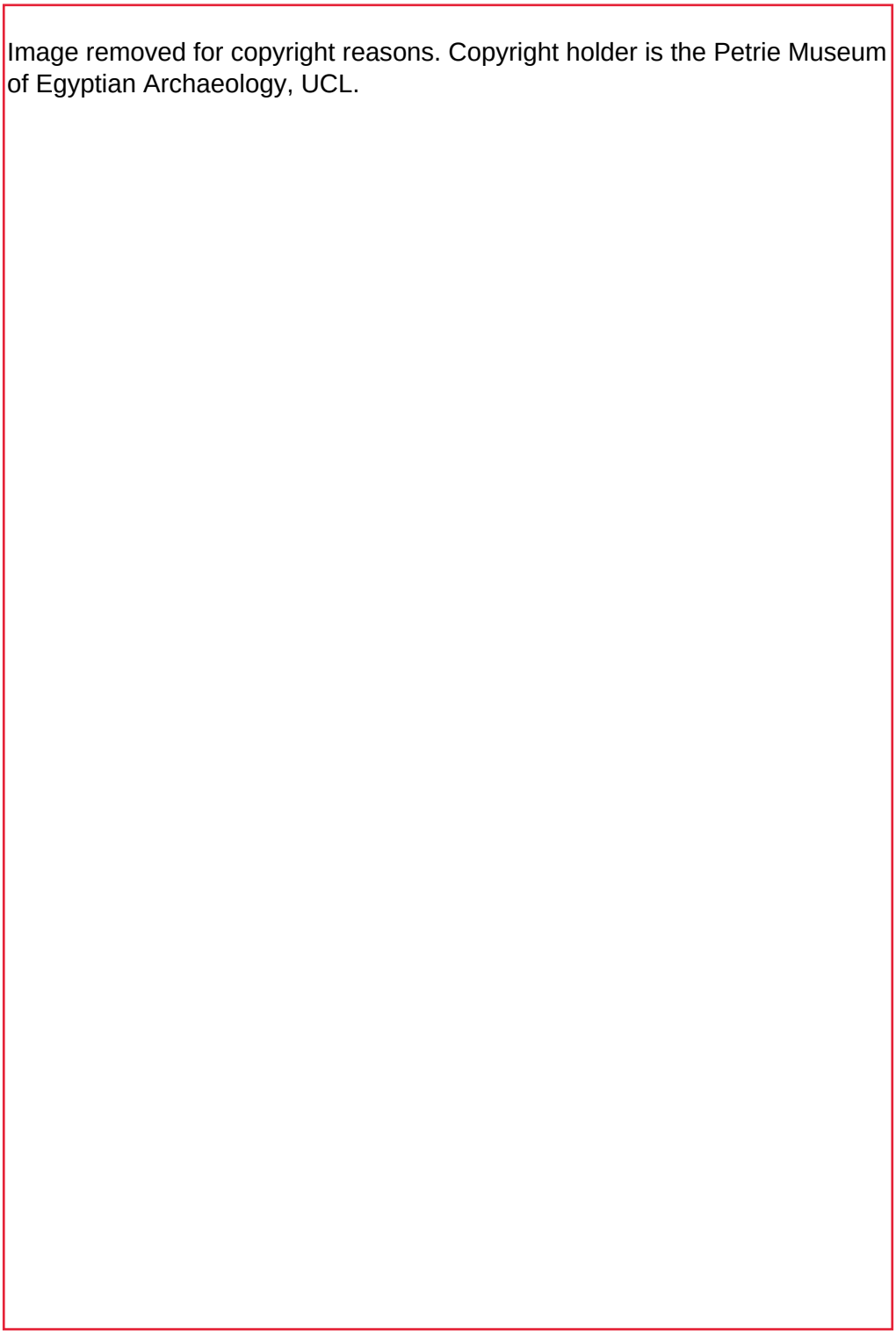


Figure 3.2. Field record of several burials (nos. 6-9) from Gheyta, 1906. The measurements and descriptions are in the handwriting of John Garrow Duncan. The "finder" was named Abadeh. According to the field notebooks, in just one field season, Abadeh was responsible for uncovering an extraordinary 118 burials at Gheyta, 9 burials at Suwa, and 42 burials at Saft el-Henneh. Pocket Field Notebook, 106, Petrie Museum of Egyptian Archaeology.

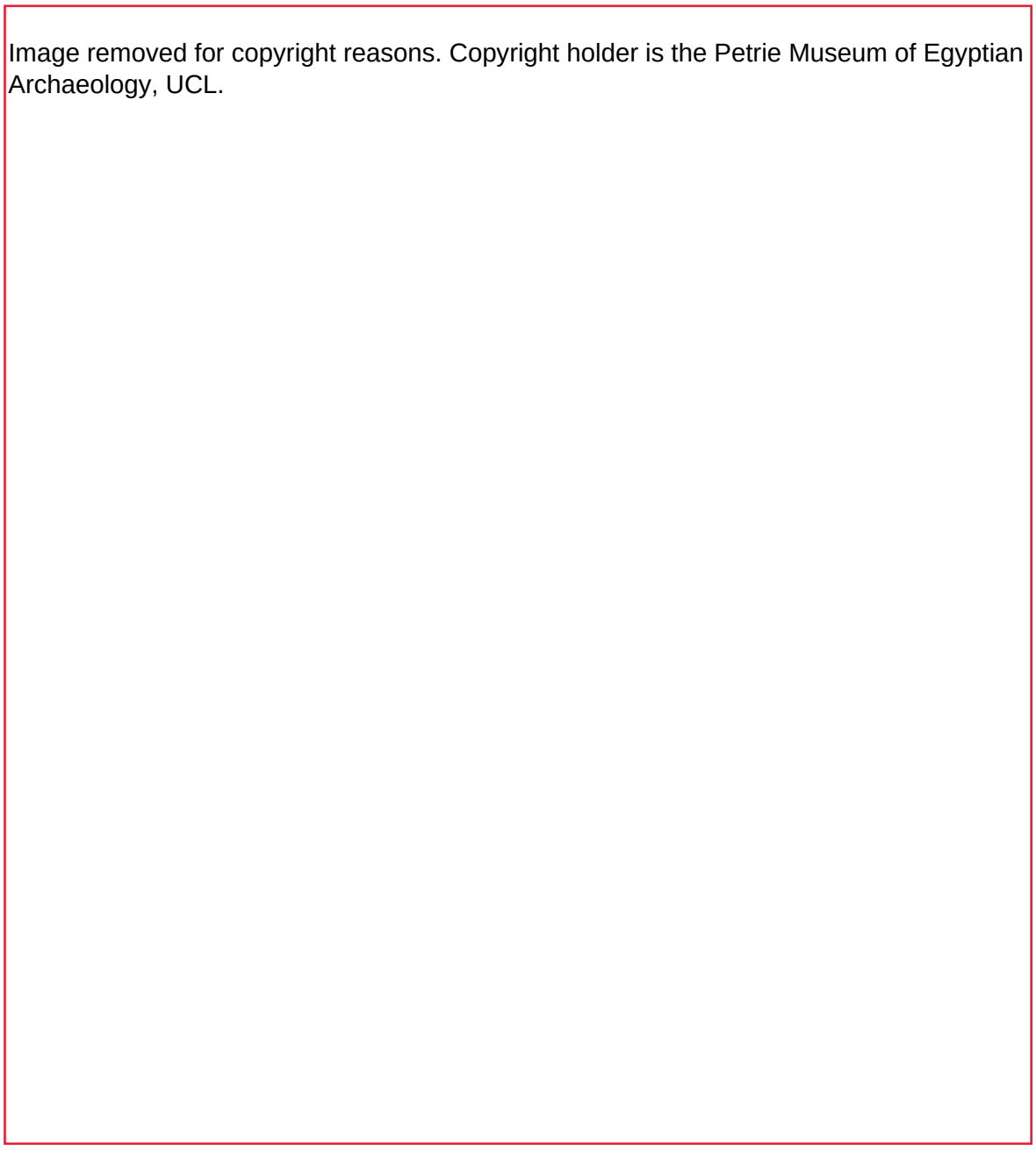


Figure 3.3. Excerpt from Petrie's field notebook at Tell el-Yahudiyeh showing the names and possible groupings of some workers, some of whom were Quftis. It was normal practice on Petrie's digs for labourers to be divided into groups of four, often with a head *ra'is* Ali Suefi supervising. Petrie Field Notebook, 106, Petrie Museum of Egyptian Archaeology. Some names also appear in Quirke, *Hidden Hands*, 82 and 180-183.

The relationship between Duncan and Gilbart-Smith is strikingly similar to Flinders Petrie's relationship with Suefi. Both Gilbart-Smith and Suefi were entrusted with the task of supervising the labour on their superiors' behalves. But there were several key differences. Suefi was an experienced overseer who knew how to run an excavation; yet he did not have the social mobility to become an "excavator" and his name did not once appear in the final report. Gilbart-Smith, on the hand, was entirely new to Egyptology, archaeology, and fieldwork, yet within a few short weeks, was already put in charge of his own group of workers and credited with much of the important recording in the final report. While their roles functioned similarly in the field, these differences are crucial. They point to the distinctions between "trained observer" and "native overseer" that Petrie was so keen to highlight in establishing his field school, because no matter how experienced, he did not believe the latter could ever become a trusted, reliable witness to excavations.

Surveillance and Egyptian Labour

The practice of employing entire villages of local labourers to excavate sites in the Middle East had been in place since the early nineteenth century. Most of these young men, and sometimes women, were also seasonal agricultural workers. Foreign archaeologists in Egypt hired hundreds of labourers at a time, often in the range of 200 to 500 for large projects. Alison Mickel has argued that the foreign management of archaeological labourers in nineteenth century Middle East were characteristic of Marxist capitalist modes of production. The colonial management of Egyptian labourers resulted in "the dissociation of the excavation process into single pieces of equipment with which workers become identified, the low wages, the denial of agency over the excavation process, and the lack of intangible benefits received from the creation and dissemination of archaeological knowledge." Mickel suggests it is possible to read the memoirs of some colonial archaeologists, such as Giovanni Battista Belzoni and Austen Henry Layard, to understand the resistance of local workers to their exploitation, and their agencies in fieldwork.[361] "Native labourers," however, did not occupy the same statuses in archaeological fieldwork.[362] It is moreover important to understand how "resistance" to western archaeological values was used as justification for overt control of labourers.

The predisposition to distrust native labourers shaped the divisions of labour on Petrie's excavations. Field students were incorporated into a hierarchy designed to maximise productiveness and combat the threat of Egyptian ineffectiveness. Every member, including Petrie,

[361] Allison Mickel, 'Essential Excavation Experts: Alienation and Agency in the History of Archaeological Labor', *Archaeologies* 15, no. 2 (2019): 181–2015.
[362] For instance, Mickel mentions Hormuzd Rassam as just another labourer, when like Hekekyan, he came from a privileged background and unlike other manual labourers, was cited by name in Layard's accounts of fieldwork.

kept tabs on those below them. Martin Willis has termed Petrie's practice a "system of surveillance" whereby workers of all classes were placed under the same regime of discipline and close observation. This system objectified Egyptian workers of all classes, denied them agency, and made them "passive recipients of the archaeological gaze." All labourers became comparable to the artefacts they uncovered, and Petrie developed "similar observational regimes of organisation and classification" to study both.[363] This attitude was common amongst most European archaeologists, anthropologists, and social scientists in Egypt at this time. They commonly treated native Egyptians as passive objects of racial observation, taxonomy, and classification.[364] Petrie and his British students regarded themselves as inherently racially superior. Young students were taught to instil discipline in those below them, even though they were rarely more knowledgeable than the most experienced labourers. The latter were skilled observers and with years of expertise.

> There is much difference between [the young and old labourers'] capacities as there is between the fellah and an educated Englishman. A gang of well-trained men need hardly any direction, especially in cemetery work; and their observations and knowledge should always be listened to and will often determine matters. The freshman from England is their inferior in everything except recording; and at least a season's experience is needed before anyone can afford to disregard the judgement of a well-trained digger.[365]

By the early twentieth century, skilled archaeological labour in Egypt was partitioned amongst two classes of workers. The upper echelon was occupied by *ru'asa*, or foreman, who, as Wendy Doyon argues, emerged in the early to mid-nineteenth century as "a new class of go-betweens with a kind of diplomatic status." These foremen mediated between the upper-middle class European archaeologists who directed excavations and the poor Egyptian villagers who comprised most of the workforces. Petrie was particularly influential in facilitating the social mobility of the *ru'asa* near the end of the century. He circumscribed the network of permanent Ottoman-Egyptian overseers who were attached to the French-controlled Museum of Egyptian Antiquities. Instead he negotiated directly with village *shuyukh* (single *shaykh*) to gather local workforces and hand selected experienced Egyptian foremen from among them. In the early 1890s, Petrie appointed a group of five or six foremen from the Fayum region, led by Suefi, to permanently supervise his excavations.[366] Petrie, Suefi, and their Fayum team then excavated the ancient site of Koptos in the modern town of Qift. Together they trained local men, boys, and girls. By the turn of the twentieth century they developed a local industry of specialised archaeological labour.[367] The

[363] Willis, *Vision, Science and Literature, 1870-1920 : Ocular Horizons*, 131.
[364] El Shakry, *The Great Social Laboratory*, 5–6.
[365] Petrie, *Methods & Aims*, 22.
[366] Drower, *Flinders Petrie*, 188.
[367] Doyon, 'On Archaeological Labor in Modern Egypt', 145–48.

foremen from Qift, known as Quftis, were the well-trained and experienced workers to which Petrie referred his British students.

The Quftis were tasked with overseeing the workforce, normally in small groups. He relied on them for practical reasons, to "watch the men, see that they kept to work, observe what was found, and make any little changes needed from hour to hour"[368] They often sat at an elevated part of the mound in order to watch over the work. Petrie described in *Methods and Aims* how these foremen were crucial to running the work.

> The system which works best is to have a careful distribution of the best men; and, in fact, work two or three dozen *reises*, all of whom do pick-work themselves. Each well-trained man can have half-a-dozen new hands placed near him, and he can be ordered to see that they follow instructions. By such a wide distribution of the authority it does not deteriorate the men, as there are too many rivals; and being paid for actual digging, they do not spoil with idleness. Thus every man is directly under the master, all instructions are given at first hand, and everyone is in close touch, and not fenced off by intermediate intriguers.[369]

Petrie was careful to note that here that, despite delegating, the "master" excavator was still on the spot, closely observing and directing the work (**Figure 3.4**).

The Quftis ensured the scientific rigour of excavations by guarding the ill-defined archaeological boundaries of the site. They were noticeably distinguished from the other labourers by their long robes and head wraps, and the long sticks they carried to direct work. Their authoritative presence scared off those who were unwelcome, such as Bedouin, fellahin, or the Egyptian antiquities dealers who Petrie worried might sneak in and take artefacts. They also ensured time management in the field by implementing monetised shift work. The Quftis led crews in chants and introduced folk songs to pace the work metronomically. Some of these were recorded out of ethnographic interest by German archaeologist Heinrich Schaefer at the beginning of the twentieth century. Different chants were used for young boys and girls carrying dirt between the trenches and dumpsite, while others were used to pace the men who were digging, bailing mud, or moving large rocks.[370] The workday began at sunrise and ended at sunset with a break at midday for lunch. Chants before noon were themed on hunger: "Look at thy watch, O effendi, though findest us utterly starved" and "O sir, let thy workers eat their dinner, or they will die and none will help thee further!" Near the end of the day chants focused on leaving work for the day: "Ye, who have watches, look, it is already past time for quitting work!" and "O sir, let the working time be over, it is enough! We are finished and the work has made us blind."[371]

---

[368] Quirke, *Hidden Hands*, 45.
[369] Petrie, *Methods & Aims*, 26.
[370] Doyon, 'Archaeology through the Eyes of Egyptians', 179.
[371] Heinrich Schaefer, *The Songs of an Egyptian Peasant, Collected and Translated into German by Heinrich Schaefer*, trans. Frances Heart Breasted (Leipzig: J.C.Hinrichs, 1904), 27–34; Anne Clément, 'Rethinking "Peasant Consciousness" in

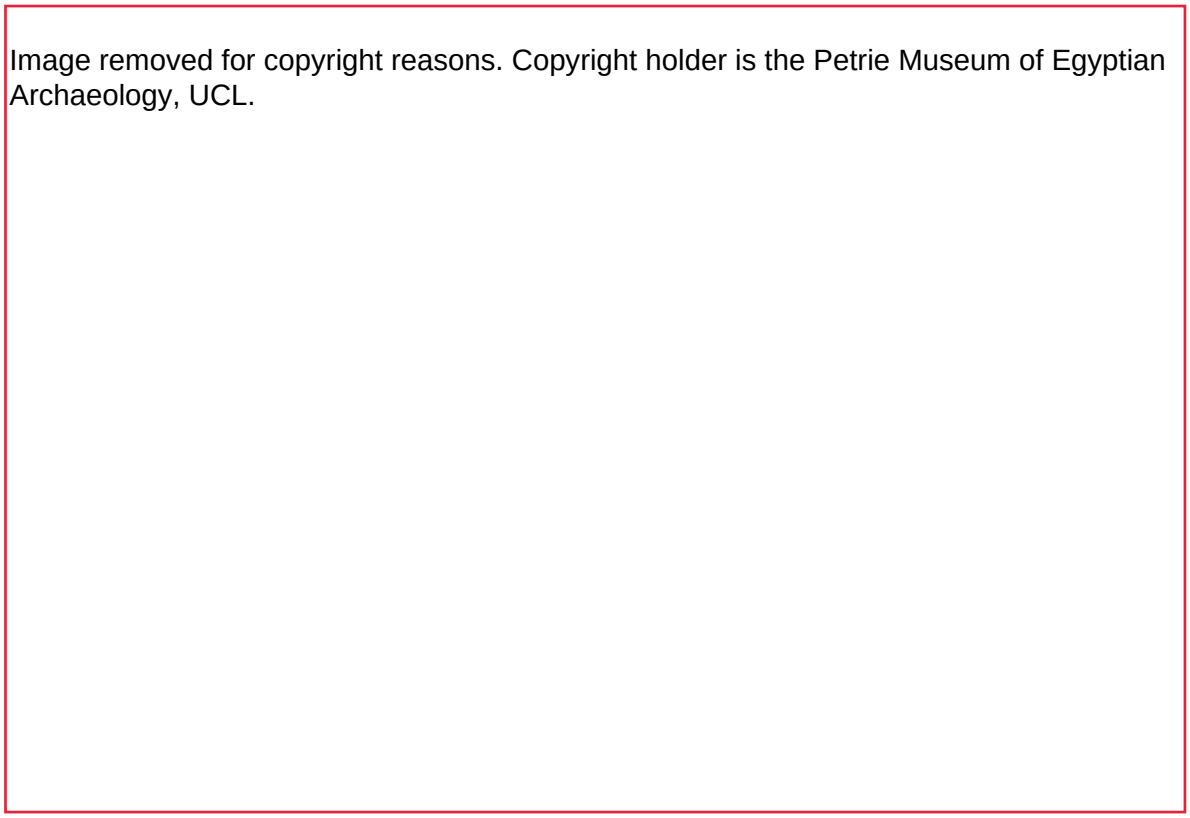


Figure 3.4. Excavations at Tell er-Retaba, 1906. Photograph by Flinders Petrie. PMAN 2945.180**,** Petrie Museum of Egyptian Archaeology.

As Wendy Doyon shows, Quftis enjoyed a hybrid identity in the field as both members of foreign archaeological expeditions and notable rural Egyptian elites. Their positions thus blurred traditional distinctions between "colonial" and "indigenous" archaeology. They hailed from one of the poorest regions in southern Egypt, where most were illiterate and received little or no public education. Yet they achieved social mobility by becoming skilled labourers, and in many cases learning some English, French, German, and classical Arabic. Far away from Qift, they identified as a superior class to the unskilled Egyptian labourers in the field. They were segregated from the Petries and their students, camping, living, and eating with the other Egyptians. Yet they dressed differently and enjoyed additional privileges such as better wages and better food. Much of their higher status and wealth was achieved by allying with European and American archaeologists, often against the interests of Egyptian nationalists.[372] In this way, the Quftis were not dissimilar to Hekekyan and other Armenian bureaucratic elites in the mid-nineteenth century who as go-

Colonial Egypt: An Exploration of the Performance of Folksongs by Upper Egyptain Agricultural Workers on the Archaeological Excavations Sites of Karnak and Dendera at the Turn of the Twentieth Century (1885-1914)', *History and Anthropology* 21, no. 2 (2010): 73–100.

[372] Doyon, 'Archaeology through the Eyes of Egyptians'.

betweens rallied on behalf of European consuls in lieu of Ottoman or Egyptian antiquities interests.[373] The Quftis diversified the archaeological labour market. Their intermediary positions enforced a separation between the three main categories of fieldwork—digging, recording, and interpretation of finds. By WWI, the Quftis were systematically recording the context of finds in Arabic journals, passing their work onto foreign archaeologists for analysis. The 1905-6 field season represents a transitional period. Petrie relied on Suefi and other foremen to manage the labour, but he still regarded recording and analysis as the domain of the "excavator."

During the late nineteenth century, a wage labour economy began to gradually replace the corvée labour that had previously been used for all state projects, particularly extending irrigation systems for increased agricultural production and constructing the Suez Canal. Although the British took credit for the abolition of forced labour following their occupation in 1882, this change was just one aspect of wider socio-political transformations in late nineteenth-century Egypt, including a nationalist Egyptian uprising and the growing domination of an elite class of Egyptian landowners who forced the Ottoman-British state to renounce corvée for their own economic profit.[374]

Petrie capitalised on the significant changes to labour policies. He normally employed one to four Quftis per excavation to manage a large body of younger Egyptian workers who were drawn from local villages. The general system of surveillance and disciplining in which Quftis were incorporated emerged from a fundamental distrust of native Egyptians. The Petries were the first foreign archaeologists to regularly record the names of the foremen and rural agricultural workers who excavated on their behalf. Their reasons for doing this was to tally the sums paid to them. Petrie was constantly worried about workers stealing from him, so he developed two general payment systems for "unskilled" labourers, one to ensure they worked quickly, the other to ensure they worked reliably. First, he gave workers a choice between a daily wage or a wage consistent with how much dirt was moved per hour, both paid in *paras*. He was frugal and sought to derive maximum return for his money per capita, which he measured in efficient labour. In one journal entry from 1891, Petrie boasted he was "paying less than anyone else for labour," referring to the payment of poor labourers in other archaeological digs but perhaps also to wage labourers working in the Egyptian transport and textile industries.[375] He wrote that the EEF paid "95 paras per metre," government contracts paid from 50 to 40, while Petrie only paid from 30 to 20 depending on the

[373] F. Robert Hunter, *Egypt under the Khedives, 1805-1879: From Household Government to Modern Bureaucracy* (Cairo: The American University in Cairo Press, 1999), 92–93, 111–17.
[374] Brown, 'Who Abolished Corvee Labour in Egypt and Why?'
[375] For more on the diversification of the Egyptian working-class during this period, see Joel Beinin and Zachary Lockman, *Workers on the Nile: Nationalism, Communism, Islam, and the Egyptian Working Class, 1882-1954* (Princeton: Princeton University Press, 1988), 1–82; Joel Beinin, 'Egyptian Textile Workers: From Craft Artisans Facing European Competition to Proletarians Contending with the State', in *The Ashgate Companion to the History of Textile Workers, 1650-2000*, ed. Lex Heerma van Voss, Els Hiemstra-Kuperus, and Elise van Nederveen Meerkerk (Routledge: London and New York, 2016), 171–98.

hardness of the dirt or size of the areas uncovered. "Notwithstanding my low rate," he added, "my men are many of them earning double the ordinary day wages, they work so hard.[376] Petrie called these workers "metre men." He described this as a system of mutual benefit. He saved money overall while incentivising workers to dig faster.

Although Petrie often presented labourers as grateful for such employment, there was wide resistance to this system. Some requested "to work by the metre instead of by the day" specifically because the wages were too low. Others with more experience, or in particularly remote areas, demanded higher day wages instead, and Petrie was forced to comply.[377] After leaving Tell el-Yahudiyeh temporarily for the even more remote Tell er-Retaba early in 1906, Hilda Petrie documented this type of resistance when recruiting labourers:

> The local people are polite, and curious; they seem interested in us, and well-meaning. It is however impossible to get boys to work here. Workers are scarce, some of the lads seem to be earning far higher wages than we should care to give for unskilled carrying, and many of the people have the Bedawy distaste for work.[378]

Wage labour was meant to combat perceived laziness among the workers, which, according to the Petries' journals, was a constant topic of annoyance.

Petrie also developed a *baksheesh* payment system, where each worker was given additional bonuses according to the market value of the objects they found. This was meant to incentivise them to dig carefully, observe closely, and avoid breakages. *Baksheesh* encouraged labourers to accept high standards of empirical observation and preservation of artefacts. "Nothing can ensure care better than paying for it."[379] Petrie gave different scales of payment for perfect pottery, fragmentary objects, and coins, etc. Acquiring intact portable antiquities was necessary for dispersal to financial supporters and for public exhibition. Petrie profited by forcing labourers to undersell to him and, on at least one occasion, assured his British supporters that certain objects would be worth "10 times as much" in London. It was crucial to offer prices for the objects found only slightly better than what they would go for on the antiquities market: "if too much be paid for finds, things will be brought in from the outside; if too little, things will be taken away."[380] The financial reward system was created to manage his distrust of the workers, who occasionally attempted "plants." Petrie believed he was capable of detecting the fakes and forgeries, but still insisted that he and his students "check the genuineness of finds."[381] He was convinced Egyptians were

[376] Petrie journal entry, 7 February 1891, cited in Quirke, *Hidden Hands*, 98.
[377] Ibid., 98–100.
[378] Petrie Journal, 17 January 1906, 14, Griffith Institute, University of Oxford.
[379] Petrie, *Methods & Aims*, 35.
[380] Cited in Drower, *Flinders Petrie*, 284.
[381] Cited in Quirke, *Hidden Hands*, 98–99.

inherently dishonest and conniving in this way. *Baksheesh* payments were "necessary to guard against the ignorance, the carelessness, and the dishonesty of the men employed."[382]

Petrie and his students assigned lesser moral and mental characteristics to both the Quftis and field labourers. The latter who dug and moved soil all day were prized for their physical abilities, but even more so for their trustworthiness and ability to follows directions. Boys and girls were best because they were agile and full of stamina, and not lazy like their older male family members. To select these workers, Petrie studied their faces for character: "The qualities to be considered are, first, the honesty, shown mostly by the eyes, and by a frank and open bearing; next, the sense and ability; and lastly, the sturdiness, and freedom from nervous weakness and hysterical tendency to squabble." [383] Most labourers were male adolescents between the ages of fifteen to twenty. After that age, Petrie was convinced they turned "stupid," so that "only a small portion [were] worth having between 20 and 40," and beyond forty, "very few [were] of any use."

> The boys are of use for carrying from about 10 years old; and they generally look mere boys till over 20. The ornamental man with a good beard is quite useless and lazy; and the best workers are the scraggy under-sized youths, with wizened wiry faces, though sometimes a well-favoured lad with pleasing face will turn out very good.[384]

Girls were employed in some excavations in the Delta, for instance at Tanis and Tell el-Yahudiyeh, to carry baskets of dirt away from the trenches. Girls were less likely to ask for a promotion in the form of "pick work" and were therefore "worth more than the boys." They were also easy to accommodate as they often camped out with their fathers and brothers. A "mixed camp" of this nature was ideal.[385] Village women sometimes assisted girls and boys in carrying baskets and often provided food and water. Ali Suefi on occasion brought along his wives and children. While excavating Araba in 1900, Hilda Petrie and Margaret Murray recorded and photographed Sara, "Ali's 2nd wife," making bread. That same season, Hilda wrote in their journal that when "130 men returned from Quft, we had 60 new workmen on, mostly brothers and friends of the old ones." [386] In this way, village familial networks were replicated on the field site.

The Quftis were regarded as more experienced and reliable than their inferiors. This "better class" of foremen were "personal friends" and "regarded much as old servants are in a good household." Some foremen even came from land-owning families and could "afford to look down on most Englishmen who would bully him." Yet Petrie feared even these honest men might take advantage of their special status if given the opportunity.

---

[382] Petrie, *Methods & Aims*, 33.
[383] Ibid., 21.
[384] Ibid., 20–21.
[385] Ibid., 23.
[386] Cited in Quirke, *Hidden Hands*, 78–79.

> There is a danger in letting control slip away. It is always needful to be firm, and to insist on obedience to orders; and constant keeping in hand in required, not only for the rank and file but even for the best men. An Egyptian cannot withstand temptations if often repeated; and the fault of a collapse of character, which befalls even the best, is mainly due to not keeping sufficient hold and influenced, and not taking sufficient trouble to control.[387]

In order to discipline the Quftis and labourers, Petrie learned Arabic (though not well) and taught his field students to do the same. Learning Arabic fluently was more important than learning ancient languages, "so as to be able to direct workmen, make bargains, and follow what is going on." It was unsafe, he argued, to be too dependent on an Egyptian "cook, a dragoman, or a donkey boy." Delegation was not the same as relying on someone else to translate and mediate. Too much reliance prevented the "close study of the workmen which is needed for making the best use of them."[388] Arabic became increasingly important in the field for these reasons, but it was rarely used in academic discourse or writing. Its use was limited to business transactions, payroll, and ethnographic descriptions of Egyptian workers.[389] This was just one of the ways Petrie systematically excluded Egyptians, whether head Quftis like Suefi, other *ru'asa*, trained diggers, or basket-carriers, from participating in the intellection aspects of knowledge production, and therefore, from gaining formal recognition in Egyptology.

Spatial Arrangements and the "Commanding View"

There was a direct correlation between the management of labour and the spatial layout of the field site itself. For instance, the separation of field labourers into small groups across one or many sites was part of the disciplining process of excavation. Historians have also emphasized how the lived environment of the field, especially the "dig house," has shaped archaeological practice.[390] William Carruthers has noted that the spatial layout of field sites cemented colonial relationships and effectively segregated "foreign' and "local" participants. The arrangement of tents during the 1928 Egypt Exploration Fund (by then, the Egypt Exploration Society) excavations at Armant accommodated, in one area, separate tents for the four male excavators, one archaeological couple, a kitchen and a servant. Much further south were some tents for the "men," most likely Quftis.[391]

Before the emergence of the "dig house" later in the twentieth century, the placement of the excavation hut or tent was key. "To suppose that work can be controlled from a distant hotel,

[387] Petrie, *Methods & Aims*, 22.
[388] Ibid., 5–6.
[389] Doyon, 'Archaeology through the Eyes of Egyptians', 183.
[390] Colleen Morgan and Daniel Eddisford, 'Dig Houses, Dwelling, and Knowledge Production in Archaeology', *Journal of Contemporary Archaeology* 2, no. 1 (2015): 169–93; William Carruthers, 'Credibility, Civility, and the Archaeological Dig House in Mid-1950's Egypt', *Journal of Social Archaeology* 19, no. 2 (2019): 255–76.
[391] Carruthers, 'Credibility, Civility, and the Archaeological Dig House in Mid-1950's Egypt', 7–8.

where the master lived in state and luxury completely out of touch with his men, is a fallacy."[392] As already shown, locality was crucial for witnessing fieldwork. It was essential for the excavator to be higher up to observe fieldwork at a short distance, but not be seen himself. Petrie often obscured his observation of workers on purpose. He did this by erecting his excavation tents or huts on elevated spots, when possible, somewhere with a good range of vision.

> When working by the day it is needful to give the signals for beginning and stopping work, and to insist on regular and continuous digging. It is impossible to be known to be away, as then no work will go on effectively. An air of vigilant surprises has to be kept up. A sunk approach to the work behind higher ground is essential; and, if possible, an access to a commanding view without being seen going to and fro.[393]

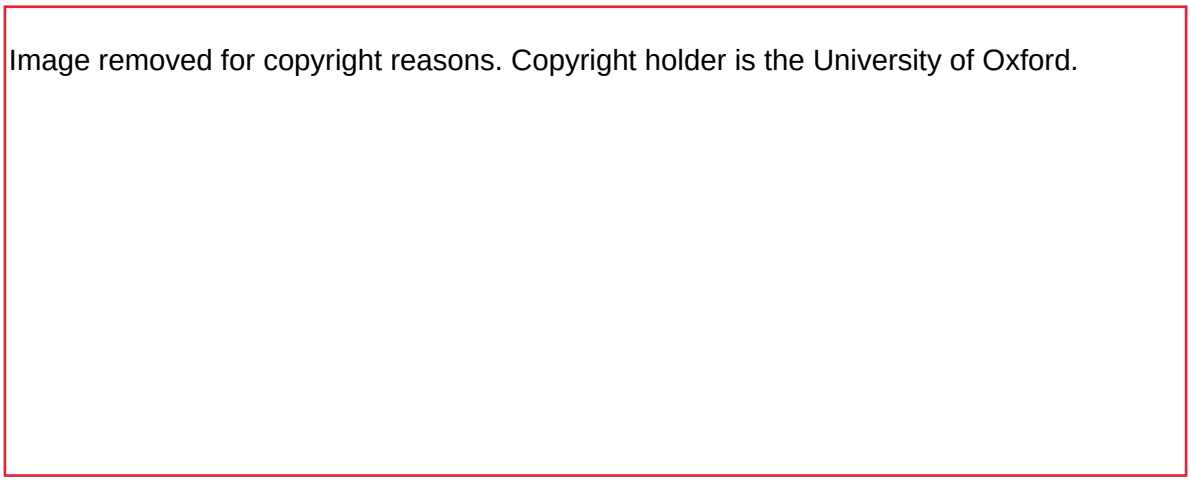
He recommended that "a telescope is very useful to watch if distant work is regular." It discouraged labourers from wasting time, working inefficiently, or worse of all, taking advantage of Petrie's absence. In one instance, Petrie spied on labourers at Tanis and caught the basket-carriers repeatedly walking up and down and with empty baskets. The punishment was "the immediate dismissal of fourteen people." Sometimes, foremen would elect a younger boy to be on the lookout for the excavator, and this was another instance in which a telescope could catch this mischief in action. But a telescope was only one way to discourage native scheming at a distance, it was best avoided by dividing workers so "that no men can give notice to others."[394]

This tactic was employed at Tell el-Yahudiyeh, where Flinders and Hilda Petrie pitched their tents against the slope of a sand wall. It did not offer very good shelter, but according to Hilda, their location near the top of the tall mound gave them "a fine view cross the green delta and in the far distance," where they could see "the citadel of Cairo, and the tops of the two great pyramids." They could also see the ancient town to the east of the mound with its mud-brick walls and the outlines of ancient streets. But most importantly, directly below their tents were the town and temple site described by Onias, and part of the palace of Ramses III (**Figure 3.5**). The Petries therefore had an excellent view of the labourers, and Hilda watched "one group of men" as they were "turning over" the remains there.[395] At Tell el-Yahudiyeh, and elsewhere, Petrie strategically kept his distance from the labourers to ensure they "work fairly well when they do not know that they are watched."[396] His high perch also gave him a total view of the field site and its surrounding, facilitating his thoughtful contemplation of the history of the sites on which he oversaw.

Such as a view was also necessary to assert their authoritative presence and keep intruders away. Hilda Petrie complained that locals not employed in the excavation actively interfered in the

---

[392] Petrie, *Methods & Aims*, 7.
[393] Ibid., 28.
[394] Ibid.
[395] Petrie Journal, 1905-06, 8, Griffith Institute, University of Oxford.
[396] Cited in Quirke, *Hidden Hands*, 101.



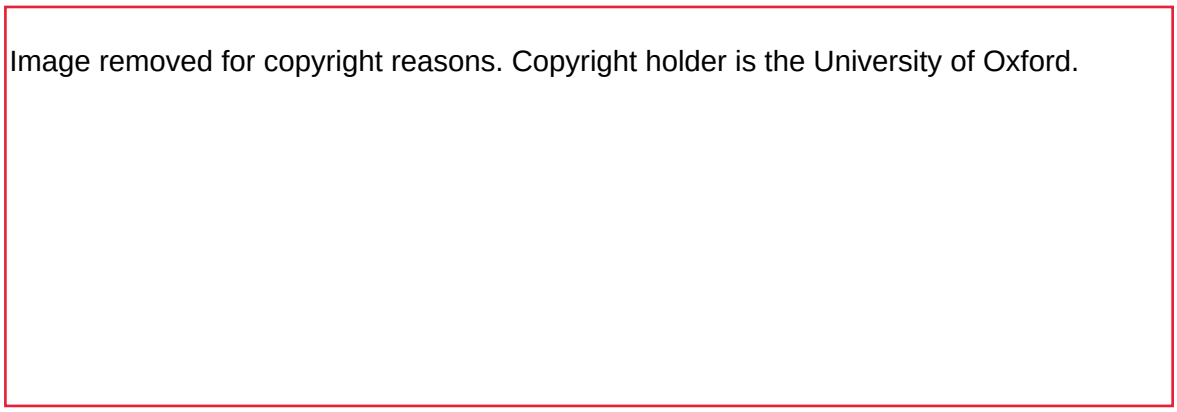


Figure 3.5. Two rough sketches of the Petries' living quarters during the 1905-06 season, drawn by Hilda Petrie in letters circulated to friends and family. Above: Tents at Tell el-Yahudiyeh. The top says, "The site is roughly this shape" and in the bottom corner "our tents." Below: Mud huts built at Tell el-Retaba. Layout indicates a hut for Flinders and Hilda, a spare (presumably for the antiquities), one for Gilbart-Smith, "din." (likely dining hall), and "boy." 17 November 1905 and 17 January 1906. Petrie Journal, 1905-06, pp. 2 and 17, Griffith Institute, University of Oxford.

work. From their first field season working together, Hilda wrote that "we have constant trouble from dealers, spies and persistent natives, but hangers-on are always cleared out of the place as speedily as possible."[397] In one incident, she described how her husband chased such intruders away: "he walks towards them, and then begins to run most alarmingly when near; it's terrifying to the loafer, an most amusing to the onlooker."[398]

[397] Drower, *Letters from the Desert*, 129.
[398] Ibid., 134.

Their issues persisted at Tell el-Yahudiyeh. Hilda welcomed the Scottish missionaries who were based in the village and came to visit. But she felt differently about the Bedouins camped on parts of the ruins. Hilda found them "wild" but "pleasant-spoken" and "gentle." However, in letters home she wrote that "they drive their flocks over the waste ground here and pasture them about everywhere. One very wild looking old woman drives a hundred sheep, and donkeys and goats right across our work from where we left off the night before." Moreover, the light railway ran not too far from Tell el Yahudiyeh, so trains, trolley, and locals passed through regularly.

> Natives and flocks of animals are passing down the road all day long, and sundry Greeks and Italians, and it is even wide enough for an *arabiyah*,[399] so that the tumble-down country carriage occasionally rumbles past. Within a stone's throw of us, and all along west of us, are great stacks of maize, and the women are picking and sorting the cobs all day, shrieking to each other, and the other people sleep in the maize by night to protect them. Twenty or thirty grey buffaloes have been tethered among the stacks to feed there, so our immediate neighbourhood is lively. The people are well-behaved, and only among us trying to sneak into our well, and fill their pots there, as it is a little nearer for them than the canal.[400]

The locals were, on one hand, a source of ethnological amusement for Hilda. She recalled how "One day some natives rushed into us to borrow a large knife—a camel had fallen down and was so much injured that it was necessary to kill him. Another day two men carried a dead wolf, to sell to the Bedawyn for food! Altogether, being encamped on a populous highway we see much of native life here." However, this activity was also a source of anxiety. There was a constant need to defend the physical boundaries of the archaeological site.

Domesticity and Spousal Collaboration in the Field

This chapter has so far examined the relationships between expertise, observation, and the management of field labour in Egypt after 1880. Another key factor in the new social and spatial arrangements was the incorporation of women into fieldwork at the end of the nineteenth century. It is well-known that women were generally discouraged from pursuing archaeology and faced a series of obstacles when they chose to do so. They had limited access to education, were excluded from membership in scholarly societies, and were constrained by their familial obligations, often experiencing tensions between their roles as academics and mothers. Unlike some other scientific pursuits, archaeological women faced additional opposition to their participation in fieldwork, as the field site was generally considered a male domain.[401] Consider the warning in archaeologist

[399] Horse-carriage
[400] Petrie journal 1905-06, 10-11. Griffith Institute, University of Oxford.
[401] Díaz-Andreu and Stig Sørensen, 'Excavating Women', 1–2.

John Percival Droop's 1915 excavation manual about the consequences of a "mixed dig," in which women and men excavate together.

> I have no intention of discussing whether or not women possess the qualities best suited for such work; opinions, I believe, vary on the point, but I have never seen a trained lady excavator at work, so that my view if expressed would be valueless. Of a mixed dig however I have seen something, and it is an experiment that I would be reluctant to try again; I would grant if need be that women are admirably fitted for the work, yet I would uphold they should undertake it by themselves….between men and women, except in chance cases, I do not believe that such close and unavoidable companionship can ever be other than a source of irritation; at any rate I believe that, however it may affect women, the ordinary male at least cannot stand it… mixed digging I think means loss of easiness in the atmosphere and consequent loss of efficiency.[402]

Such was the prevalent attitude towards women in the field, supposedly a man's space. Nonetheless, women did participate in fieldwork in this period, in crucial but often less-recognised ways.[403] My focus here is first to show how women were excluded from adopting the new role of "excavator" because their presence complicated the perception of the field as an experimental, rigorous, training space. Second, I show that by sharing crucial tasks with their male colleagues, women contributed to the new system of expert witnessing.

Petrie's encouragement of male bachelors as first-hand excavators was emblematic of what John Tosh calls the "flight from domesticity" among middle-class men in the late nineteenth century. From the 1870s onwards, there was increasing tensions between male domesticity and heroism, especially in the realm of British imperialism abroad. Domesticity came to be viewed as "unglamorous, unfulfilling, and ultimately—unmasculine."[404] Many middle-class men responded by delaying marriage until middle age, or rejecting it altogether, and by embarking in colonial activities abroad. Whereas masculinity was once defined by domestic relations at home, it could now be achieved through bachelorhood, and became associated physical and moral endurance.[405]

It is certain that Petrie, and some of his early male students, regarded the "field" as an opportunistic space to fashion Egyptological identities. Petrie remained a bachelor until the age of forty-three when he finally felt his finances were stable enough that he "could think of marriage."[406]

---

[402] J.P. Droop, *Archaeological Excavation* (Cambridge: Cambridge University Press, 1915), 63–64.
[403] Standard accounts have tended to focus on "pioneering" women in archaeology, Irwin-Williams, 'Women in the Field: The Role of Women in Archaeology before 1960'; Getzel M. Cohen and Martha Sharp Joukowsky, eds., *Breaking Ground: Pioneering Women Archaeologists* (Ann Arbor: University of Michigan Press, 2004).
[404] John Tosh, *A Man's Place: Masculinity and the Middle-Class Home in Victorian England* (New Haven, Conn.: Yale University Press, 1999), 3–7.
[405] John Tosh, 'Imperial Masculinity and the Flight from Domesticity in Britain 1880-1914', in *Gender and Colonialism*, ed. Timothy P. Foley (Galway: Galway University Press, 1995), 72–85; Tosh, *A Man's Place*, 170–94; John Tosh, 'Home and Away: The Flight from Domesticity in Late-Nineteenth Century England Re-Visited', *Gender & History* 27, no. 3 (2015): 561–75.
[406] Petrie, *Seventy Years in Archaeology*, 175.

For nearly two decades he had spent all his winters in Egypt, renouncing home comforts and boasting about the daily challenges of field life. During these years he did not consider marriage an option for a field archaeologist, convinced that "no woman…could be asked to share his life of constant toil and discomfort, even danger sometimes. He had almost persuaded himself that he disliked the idea of being shackled by matrimony."[407] How pleased Petrie was in 1897 to find that his new wife, Hilda, was just as eager to escape gendered expectations of motherhood at home and join her husband in Egypt? When Hilda asked if her "summer mountaineering" outfit would be suitable for digs, Petrie gleefully replied: "You did rejoice me by naming that, for I knew that you looked to Egypt with hope and pleasure, and not as a dreadful solitary exile…"[408]

Marriage was of course one of the few avenues for middle-class women to participate in prolonged, repetitive, fieldwork in Egypt. Hilda was among the first archaeological wives who joined their husbands in the field. There remains a persistent myth that these women, rather than participating in the dirty work of excavating, were assigned the "menial" tasks of dealing with artefacts because it resembled housework.[409] Such characterisations are misleading on so many levels. First, we have seen that male excavators themselves rarely participated in "dirty work," and when they did, it was just as often as women. Second, it is problematic to downplay the significance of cleaning, sorting, cataloguing and drawing of artefacts, or dismissing these activities as domestic, women's work. Flinders Petrie himself regarded "small things" as the most essential acquisitions from excavation. Lastly, this narrative ultimately ignores these women's ambitions and competencies. The restrictive label of "wife" presumes that women who supported their archaeologist husbands were amateur hobbyists. Hilda has been described as "the loyal helpmate who shared all her husband's activities" and "the rock and support on which he could depend."[410] Her unwavering support for Petrie did not negate her own archaeological interests.

Women also resisted notions of "domesticity" through fieldwork. An invention of the nineteenth century, domesticity was generally defined by "privacy and comfort, separation from the workplace, and the merging of domestic space and family members" into the concept of home.[411] The feminisation of domesticity, and binary categorisation of private and public, have been consistent frameworks to consider the marginalisation of middle-class Victorian women.[412] From the mid-nineteenth century, travel offered upper and middle-class women such as Harriet

---

[407] Drower, *Flinders Petrie*, 233.
[408] Quoted in Ibid., 234–37. The original letters between Hilda and Flinders were written between October 1896 and November 1897 and are in the possession of the Petrie family.
[409] Jonathan E. Reyman, 'Women in American Archaeology', in *Rediscovering Our Past: Essays on the History of American Archaeology*, ed. Jonathan E. Reyman (Avebury: Aldershot, 1992), 74; Lucas, *Critical Approaches to Fieldwork*, 7.
[410] Janssen, *The First Hundred Years*, 8.
[411] Tosh, *A Man's Place*, 3–7.
[412] Amanda Vickery, 'Golden Age to Separate Spheres? A Review of the Categories and Chronology of English Women's History', *The Historical Journal* 36, no. 2 (1993): 383–414.

Martineau and EEF founder Amelia Edwards a route into a scientific vocation. Their travelogues featured amongst a long tradition of Egyptian narratives by Victorian women travellers.[413] However, as Billie Melman shows, the Orient is often "depicted as a man's place, and the empire as a male space, the locus of male character-building and "career."[414]

British women often chose to operate under masculine confines while abroad, grappling increasingly restrictive codes of behaviour, dress, company, and activities. Amelia Edwards capitalised on her distance from England in order to justify her otherwise unconventional behaviour.[415] Reviewers of her travelogue *A Thousand Miles Up the Nile* (1877) noted that Edwards represented a new class of "free and unfettered women" who sought travel and adventure, just like men.[416] However, Edwards carefully presented her experiences in a manner which was deemed appropriate back home, referring to herself in the de-gendered "the author." While the *Saturday Review,* praised her conformity to expected female etiquette, particularly her aversion to getting dirty.

> We get, of course, quite a women's view of the subject; for Miss Edwards, unlike some other literary ladies, is evidently the last person in the work to think of renouncing her sex, and assuming masculine swagger. She did not attempt any feats of difficulty…In fact, the charm of the book is to be found in the way in which the writer gives an idea of the quiet, dozy, unexciting, yet not uninteresting, dahabeeyah trip up the Nile.[417]

This characterisation of passive exploration stands in contrast to women travel writers at the turn of the twentieth century. For instance, Mary Kingsley's famous passage that she was "feeling like a boy with a new half-crown" comes to mind. The British press marvelled that this "lonely English lady" had "manfully" traversed the dark continent.[418]

Hilda Petrie also saw Egyptian fieldwork as an opportunity to defy the gendered expectations of her Victorian upbringing. There are several well-known descriptions of her removing her skirt to climb the Great Pyramid in her bloomers and in Dendera, climbing down by rope ladder into a deep tomb shaft, laying on her side for days while copying the reliefs and inscriptions that were impossible to photograph. She wrote her sister on her return to Cairo after one field season that it was "strange to be in civilisation once more. English shoes are uncomfortable, and I hardly know myself in stockings: they are so stuffy and irritable…"[419]

---

413 Frawley, *A Wider Range*; Harper, *Solitary Travelers*.
414 Melman, *Women's Orients*, 5.
415 Frawley, *A Wider Range*, 38–39; Harper, *Solitary Travelers*, 136.
416 "Politics, Sociology, Voyages, and Travels," *Westminster Review*, vol. 51, no. 2 (April 1877): 545.
417 "Minor Notices," *The Saturday Review*, 13 January 1877, p. 59.
418 Mary H. Kingsley, *Travels in West Africa* (London: Macmillan & Co. Ltd., 1897), 1; Livingstone, *Putting Science in Its Place : Geographies of Scientific Knowledge*, 43.
419 Drower, *Letters from the Desert*, 147.

However, Hilda's presence on site also brought a new type of domesticity to the field. Domestic roles began to change for both men and women around the turn of the century. The demarcation between private and public began to dissolve and the traditional female roles in the home were harder to maintain. A new vision of marital "comradeship" began to take shape, where some husbands realised and supported their wives' ambitions.[420] Kate Hill has argued earlier fieldwork in natural history, such as botany, was compatible with feminine domesticity, because women used equipment from home and sorted their collections at home. However, as the archaeological field site took shape as an experimental space, it was increasingly "divorced from the home" and not compatible with ordinary forms of domestic existence. Petrie's encouragement of women in his excavations was something of an exception, but even so, Hill suggests they were pushed to what she terms "museumifying" practices, namely the handling, cleaning, sorting, drawing, registering, and packing of artefacts. While these women's activities in the field were thus crucial to the production of field-knowledge, their direct engagement with objects was perceived to be subordinate and less-important to their male counterparts, and certainly less-visible in histories of the discipline.[421]

However, this perceived lack of domesticity in archaeological fieldwork is complicated by the fact that women, especially wives, were increasingly populating the field site. On Petrie's excavations, familial units were replicated in the field. This was true for the Egyptian labourers discussed earlier, as it was for Hilda, who on at least one occasion brought her sister Amy Urlin along on excavation. There were also an extraordinary number of collaborative couples on Petrie's digs who lived and worked together on site: Annie Pirie and James Quibell, Anne (Nina) Macpherson and Norman de Garis Davies, not to mention those who collaborated together in the writing process, such as Kate Bradbury and Francis Llewellyn Griffith, and of course, the Petries. The need to reproduce a sense of home became necessary when half the year was spent in Egypt. Excavation tents and huts became key in replicating the domestic sphere on site. It offered both Hilda and Petrie a space for refuge after a day spent in the sun inspecting the field trenches, tallying finds, or copying inscriptions.

There was also no separating "domestic" from "archaeological" activities in the Petries' private living quarters. It functioned as an observatory point, to secretly watch over labourers. It was simultaneously a makeshift lab for cleaning, sorting, drawing, and photographing objects. At Tell el-Yahudiyeh, it was reserved for "the best of the antiquities" and became as an important organizational space for processing what was collected during the day.[422] Hilda spent most her

[420] Tosh, *A Man's Place*, 171.
[421] Kate Hill, *Women and Museums 1850-1914: Modernity and the Gendering of Knowledge* (Manchester: Manchester University Press, 2016), 158–59.
[422] Petrie journal, 1905-06, p.6, Griffith Institute, University of Oxford

time in the tent dealing with artefacts and sketching maps. Petrie used the space to develop photographs in the evening, and they both scripted their joint journal and correspondence there. The shared space was also used for sleeping, eating, and cooking. These domestic-archaeological activities were dictated by colonial conditions. Egyptologists regularly compared domestic objects brought from home with Egyptian artefacts. This became a critical tool in archaeological field descriptions, making the latter seem familiar to British audiences.[423] In diaries and correspondence, both Hilda and Flinders Petrie switched between discussing activities like eating, cooking, sleeping, shopping, and discussion of artefactual analysis. Hilda once described washing clothes on their day off: "I bring [the clothes] round to back, and work beside the stone copying and do them alternately, so as to alternate the back-aches connected with each employment!"[424] In this sense, domesticity cannot be disentangled from the purportedly scientific aspects of the excavation, including observation and recording.

While their partnership opened the doors for Hilda Petrie to pursue an archaeological career, Flinders Petrie equally benefited from marital collaboration. Historians of science have noted the importance of marital collaboration as a component of scientific productivity in the early twentieth century. A series of public spousal alliances emerged in this period, exemplified by the Curies, Einsteins, and others. These "creative couples" shared tasks according to individual abilities so that they "could do scientific work that surpassed what either husband or wife alone would have been able to accomplish, or the wife alone would have been allowed to pursue."[425] Hilda actively contributed to the organisation and productivity of field work. Petrie wrote to Egyptologist James Henry Breasted after their first season together: "All our ways and thoughts and interests are so closely in common that we neither of us have to change anything in placing our lives together. Antiquities, geology and many tastes of my own are also my wife's for years past. So, you see that the Egyptian work will be reinforced and not in the least hindered by the recent change."[426]

While Petrie trained only men to be excavators, he was unique for inviting several female students on his field seasons. This grew out of the training program in Egyptology he had established at UCL in 1893 under Amelia Edward's bequest. Notably, Edwards chose UCL because it was the only academic institution that admitted degrees to women by examination—and women attended Petrie's college lectures in large numbers. One of the first female pupils, Margaret Murray, reported that in that first year "there were over twenty ladies and two men. None was of undergraduate age. The ladies were all very learned, they had 'done' many subjects —chemistry,

[423] Willis, *Vision, Science and Literature, 1870-1920 : Ocular Horizons*, 148–53.
[424] Drower, *Letters from the Desert*, 145.
[425] Ogilvie, 'Marital Collaborations'; Pycior, Slack, and Abir-Am, 'Introduction', 4.
[426] Drower, *Letters from the Desert*, 148.

botany, history, etc."[427] Keen to take advantage of their Egyptological training in the classroom and eagerness to do fieldwork, Petrie quickly decided he could benefit from their artistic skills. In 1895 he famously wrote to another male field student:

> We are overrun with lady students wanting to come out; three of them are good draughtswomen and colourists, and I hope to plant them out at Sakkara and Thebes to copy tombs and hieroglyphics. It will be great help if we develop a corps of lady artists to turn on to important places.[428]

Margaret Murray also worked as a copyist, cataloguer, linguist, and excavator for Petrie, although as an unmarried woman, she was not granted the same opportunities for repeated seasons of fieldwork. Murray gradually took over the bulk of Petrie's courses at UCL and developed the first archaeological training program in the United Kingdom. She instructed students in Egyptian history, languages, and artefact analysis, preparing students for fieldwork with Petrie. Kathleen Sheppard has argued that Murray's crucial pedagogical role has been gendered and thus minimised as secondary to students' field training in Egypt.[429] Like Hilda, Murray's less-visible labour in the classroom was essential for Petrie's productivity in the field and directly contributed to producing a generation of "trained" male experts.

It was initially through Hilda's artistic skills that Petrie also encouraged her archaeological ambitions. But she quickly became an indispensable member of her husband's excavations. Hilda was first put to work copying inscriptions. She gradually took on a number of important tasks, including artefact handling, cleaning, sorting, and especially drawing the small objects that were most important to Petrie's comparative sequence dating. At Tell el-Yahudiyeh, Hilda spent many days in their excavation tent drawing "scarabs, cylinders, beads, and seals…flints, pot-marks, pottery fish, copper tools and fragments of pottery" (**Figure 3.6**).[430] This type of recording was invaluable preparation for publication. Inscriptions and decorative motifs were clearer in illustrations than photographs, and pottery drawings could reconstruct a complete vessel out of a partial sherd. Smaller objects, such as ceramics, could be drawn to desired scales to make classification and comparison of published plates much easier.

Yet Hilda was not confined to the excavation tent, but regularly collaborated with Petrie on field tasks as well. When they excavated the cemetery at Abadiyeh and Hu, Petrie drew all the objects in position then handed them to Hilda to record the grave number on each piece. When

[427] Janssen, *The First Hundred Years*, 10.
[428] Ibid., 13.
[429] Sheppard, *The Life of Margaret Alice Murray:*, 95–96; Sheppard, 'Margaret Alice Murray and Archaeological Training in the Classroom: Preparing "Petrie's Pups"'.
[430] W. M. Flinders Petrie and Hilda Petrie, 'Petrie Journal, 1905-06', 1905, 7, Griffith Institute, University of Oxford.

Figure 3.6. Miscellaneous drawings of pottery from Tell el-Yahudiyeh by Hilda Petrie, 1906. PMA/WFPI/15/8/2/1. Petrie Museum of Egyptian Archaeology.

they surveyed sites, she held the tape while Petrie recorded the measurements in his pocket notebook. She often took over the duties of measuring, plotting maps, and plan-drawing. Measuring *mastabas* at Dendera, Petrie measured while Hilda recorded the numbers in her sketches, then produced scaled plans in their tent. She found "triangulation and the use of a sextant, and surveying and planning in general…fascinating."[431] The pair took day trips to the market to buy supplies, or into the hills to look for rock tombs and to sketch. They also embarked on longer surveying expeditions with Ali Suefi, who would "ride a donkey, she a horse and the professor would walk."[432]

Hilda eventually took over a huge number of shared tasks with her husband — from writing, corresponding, drawing, recording, surveying, measuring, and especially, co-managing the workforce. Although Hilda knew little Arabic when arriving in Egypt, she learned quickly by shadowing her husband as he spoke to the labourers: "I get in detail all the sense of what he says, generally, and in the pauses I enquire the meaning of unknown words and write them down; so I

[431] Drower, *Letters from the Desert*, 133.
[432] Margaret S. Drower, 'Hilda Mary Isobel Petrie, Née Urlin, 1871-1956', *Breaking Ground: Women in Old World Archaeology Project, Brown University*, 2004, 3, http://www.brown.edu/Research/Breaking_Ground/bios/Petrie_Hilda.pdf.

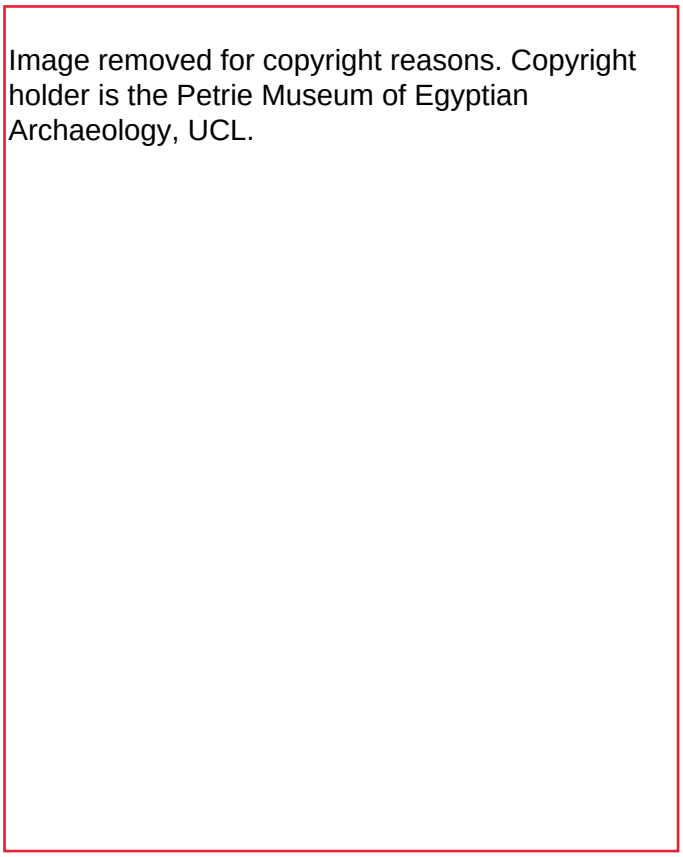


Figure 3.7. Photograph of Hilda Petrie at Abydos, 1903. From the Petrie Museum of Egyptian Archaeology, UCL. Shown in Alice Stevenson, *Scattered Finds: Archaeology, Egyptology, and Museums* (London: UCL Press, 2019), 12.

am collecting a useful vocabulary, and find that I know over 300 words by this time…"[433] Hilda's Arabic gradually became superior to her husband's. She increasingly demanded more responsibilities on site and was given her own excavation to direct in the winter of 1902-03 at Abydos, working with Margaret Murray and another female artist Winifred Freda Hansard. Hilda managed the whole operation, oversaw the workmen, and paid their wages, while Murray and Hansard copied temple inscriptions (**Figure 3.7**).[434] This was only the second excavation in Egypt with only women archaeologists at the helm.[435] Hilda was henceforth often the person responsible for selecting the workforce on her husband's excavations and communicating with the Quftis and labourers. She controlled the financial management of daily activities and was often responsible for recording names, tallying finds, and paying workers.

The Petries' collaboration became a model for subsequent field couples. Marie Garstang and Winfred Brunton also participated in their husbands' excavations, although the extent of their spousal collaboration has been similarly under-recognised. Droop argued in his manual that

[433] Drower, *Letters from the Desert*, 133.
[434] Margaret A. Murray, *The Osireion at Abydos*, Egypt Research Account 9 (London: Bernard Quaritch, 1904), 1.
[435] The first was directed by Margaret Benson and Janet Gourlay in 1899, see Kathleen L. Sheppard, '"Constant Companions" and "Intimate Friends": The Lives and Careers of Maggie Benson and Nettie Gourlay', *Lady Science*, 6 June 2019, https://www.ladyscience.com/constant-companions-and-intimate-friends/no57.

marriage was the *only* instance in which male and female excavations were productive: "I can imagine a man conducting a small excavation very happily with this wife."[436] Having worked in Egypt around the same time as these couples, Droop was undoubtedly familiar with their work. Clearly these spousal collaborations had a profound impact on ideas about female suitability to archaeological fieldwork.

Conclusions

An Oft-cited watercolour by artist Henry Wallis shows Petrie at Thebes in 1895, surrounded by the local Quftis he recruited and trained **(Figure 3.8**). His clothing and upright active position are in stark contrast to the Orientalist depiction of half-naked Egyptians passively surrounding him. Petrie is shown holding and analysing an ancient jar at arms' length "for dramatic effect," with his walking stick in the other hand. According to Quirke, "the pose contrasts with the way Petrie advocated engagement in the dirty work of archaeology in his manual," and is more likely a projection of Wallis's own role as a traveller and antiquities collector.[437] Perhaps there is some truth to this, but as we have seen, this romantic image of Petrie—the "master" and "excavator," called over from his lone field surveying to assess the discovery of a new object, uncovered only moments before by Egyptian labourers—is not necessarily at odds with his insistence on "first-hand" fieldwork.

This chapter has unpacked an idea that is often taken for granted in histories of Egyptology, namely, the assumption that Petrie's insistence on "being there" and "getting dirty" meant he was in fact excavating. This point may not sound like a revelation or appear to be all that significant on its own, but I argue that it is crucial in order to come to grips with the revolutionary status attributed to Petrie as making fieldwork "scientific." This chapter has attempted to disentangle what "being there" and "scientific archaeology" actually meant in practice. Was Petrie's fieldwork all that different from his long-distance predecessors? As I have shown here, Petrie's practices were shaped by an economy of trust, and its currency in establishing archaeological expertise, that was a continuation from the earlier periods discussed in this thesis. However, Petrie's quest to become an expert witness was something new in Egyptological fieldwork in the 1880s. First-hand witnessing was a shared agenda among practitioners in the related disciplines of geology, prehistoric archaeology, anthropology, and geography. It was an attempt to dispel earlier scepticisms about unreliable second-hand witnesses and, therefore, was still fundamentally about maintaining trust-relationships. The training of field students as "excavators" and the organisation and surveillance

[436] Droop, *Archaeological Excavation*, 63–64.
[437] Quirke, *Hidden Hands*, 24–25.

Figure 3.8. *Excavating in Egypt: Professor Petrie at Thebes*, watercolour by Henry Wallis, 1895. UCL, EDC2674

of Egyptian labour was primarily a reaction against racial distrust. I am not suggesting that Petrie's implementation of sequence dating and stratigraphy, or his insistence on field-recording, did not have significant disciplinary implications for Egyptology in the long-term. However, these technical developments alone do not fully account for what really changed on the ground.

This chapter has brought together a range of literature on scientific witnessing, pedagogy, and local and gendered labour, to analyse changes in Egyptological fieldwork from a new perspective. Looking at who actually participated in fieldwork, and their roles in relation to one another, is necessary to understand the critical link between heroic archaeology and invisible labour. Petrie's productivity was the sum of a division of labour between field assistants, field students, his wife, his head ra'is, many Quftis, and hundreds of labourers. In a contemplative moment after leaving the EEF in 1886, Petrie described his most important transferable skills from his field experiences: "Arabic, surveying, organization and management."[438] Even though this was Petrie's self-assessment, historians have discussed these practices as secondary to Petrie's other interests in field-recording and analysing pottery. Here I have argued that Petrie's agenda, first and foremost, was establishing his own expertise in Egyptology. He did this by becoming a first-hand witness to excavations, and his primary method was the organisation, division, and surveillance of labour. His

[438] Cited in Drower, *Flinders Petrie*, 106.

interests in artefact analysis and preservation, stratigraphy, photography, etc., formed only part of his wider agenda, and he could generally only pursue these things by delegating to others.

Therefore, expert-witnessing was at the core of the shift to the field in Egyptology. It points to the new relationship between locality and expertise in the post-British Occupation era. This chapter has shown how the colonial and gendered power structures in archaeology shaped the discipline's scientific image. Directing fieldwork gave Petrie a legitimate claim to Egyptological authority, while the systems of delegation, observation, and disciplining that I have described allowed Petrie the time and freedom to pursue his theoretical work. In the next chapter, I show *why* such insistence on expertise was necessary. British Egyptology was becoming increasingly specialised and practitioners competed amongst one another to establish Egyptological authority. Popularisers argued for the scientific value of the "excavator," the "field site," and "first-hand" fieldwork. These ideas were not obviously superior to other ways of practicing Egyptology and were therefore aggressively promoted to and scrutinised by British audiences. The process of publicising heroic fieldwork in Egypt became a crucial mechanism of erasure, rendering most participants largely invisible.

4 Popularising Heroic Fieldwork, 1880-1906

> If the rate of literary production in any degree corresponds with the extent of the demand, no subject would seem to be more popular among English readers. Histories of Egypt, Letters from Egypt, Rides in Egypt, Nile Notes, Nile Journals, Nile Gleanings, Nile Novels, books about Obelisks, books about Pyramids, Guide-books, new editions of old standard works, and the like—all issue from the press at a rate which increases rather than declines.
>
> Amelia Edwards, "The Egypt of the Past," *The Academy*, 19 November 1881, 375.

When author Amelia Edwards wrote about the public's growing interest in ancient Egypt in 1881, British Egyptology was on the precipice of unprecedented developments. The ensuing period saw an influx of Victorian tourists, archaeologists, military personnel, engineers, and colonial administrators into the Nile Valley. Edwards officially announced her establishment of the Egypt Exploration Fund on 30 March 1882, only three months before General Wolseley's British forces advanced on the army of Ahmed Urabi at the violent battle of Tell el-Kabir, the climax of three years of civil unrest and a months-long military siege of Egypt.[439] Amidst political turmoil, the Khedive Muhammed Tewfik Pasha and his Egyptian ministers stopped subsidizing excavations, which left a vacuum for foreign sponsorship. Auguste Mariette had been the long-seated director of the Antiquities Service and was notorious for refusing *firmans* (permits) to the British, but he died early in 1881. French Egyptologist Gaston Maspero, a friend of Edwards, was appointed in his place and seemed far more sympathetic, even enthusiastic, about the prospect of British-funded excavations. Between 1879 and 1882, images and updates about the Anglo-Egyptian war and military occupation appeared weekly on the front pages of every British newspaper. The reorganisation of Ottoman-Egyptian administration became a top priority throughout the ensuing veiled protectorate. The British public were asked to contemplate "The Egypt Question," which according to *The Times* foreign correspondent Donald Mackenzie, was "what the British Government ought to do with regard to Egypt?"[440] Victorian popularisers of Egyptology, such as Edwards, campaigned to convince public audiences that archaeological fieldwork should be a salient aspect of Britain's colonial agenda.

The development of Egyptological fieldwork in the late nineteenth century owed much to the simultaneous specialisation and popularisation of the sciences in Britain. Amara Thornton has shown that from the late nineteenth century onwards, archaeologists in Britain were increasingly "commerce-minded." They collaborated closely with commercial publishers and editors to "script

[439] [Amelia Edwards], 'Egyptian Antiquities', *The Times*, 30 March 1882.
[440] Mackenzie Wallace, *Egypt and the Egypt Question* (London: Macmillan and Co., 1883), 370.

spadework" through newspaper reports, exhibitions, lectures, radio broadcasts, popular history books, guidebooks, travel books, and museum catalogues.[441] Thornton traces the emergence of an enduring romantic perception of archaeology that became ingrained in the British imagination, and shows that popular publishing was a formative aspect in the construction of archaeological identities and reputations. In particular, she and others have noted the crucial roles British women played in promoting, fundraising, lecturing, and popularising fieldwork.[442] Kate Hill and Alice Stevenson argue that women's authorities revolved around their unique relationships with *artefacts*, both in Egypt and in Britain, providing new opportunities for women to access archaeology through museums and promotional activities. Women such as Amelia Edwards, and later, Hilda Petrie and Margaret Murray "developed 'feminine' expertise to successfully mediate scholarly knowledge for a popular audience."[443] While largely accurate, the framing of this argument solidifies an unhelpful dichotomy between the field and museum as "separate spheres," associated respectively with masculine, heroic, and scientific rigour, and feminine, domestic, subordinate roles.[444] Thornton's focus on the self-promotion of archaeologists, while significant, does not address my key concern, which is how popularisation fed back into field practices as the boundaries between "specialist" and "non-specialist" expertise were negotiated. Disciplinary boundaries were carefully carved during this period because of the permeability between spaces of knowledge-production, Egyptological audiences, and different archaeological authorities.

The 1860s through the 1880s saw new tensions between public accessibility and scientific authority. The first generation of professional men of science, such as Thomas Henry Huxley, attempted to secularise their disciplines, making the laboratory the ultimate site of scientific expertise. At the same time, the mid-nineteenth-century "communications revolution" in steam-powered printing technologies, railway and telegraphy networks, the penny post, secular education, and repeal of the so-called "Taxes on Knowledge" created a mass British readership.[445] This fostered a new marketplace of affordable literature for non-specialists and a boom in "popular science" lectures, books, and periodicals.[446] There was a dramatic growth in the range of periodicals available to the working and middle classes, from daily papers, weekly journals, monthly magazines, and quarterly reviews. Bernard Lightman has shown that editors, journalists, and authors navigated

441 Thornton, *Archaeologists in Print*, 2.
442 Ibid., esp. 48-74; Hill, *Women and Museums*, 156–76; Rachael Sparks, 'Publicising Petrie: Financing Fieldwork in British Mandate Palestine (1926–1938)', *Present Pasts* 5 (1), no. 2 (2013): 1–15; Stevenson, *Scattered Finds*, 55–62.
443 Hill, *Women and Museums*, 166.
444 Vickery, 'Golden Age to Separate Spheres'.
445 Secord, *Victorian Sensation*, 24–34; Shattock, 'Introduction'.
446 Cantor et al., *Science in the Nineteenth-Century Periodical*; Cantor et al., *Culture and Science in the Nineteenth-Century Media*; Fyfe, *Science and Salvation: Evangelical Popular Science Publishing in Victorian Britain*; Cantor and Shuttleworth, *Science Serialized*; Fyfe and Lightman, *Science in the Marketplace*; Lightman, *Victorian Popularizers of Science*:; Shuttleworth and Charnley, 'Science Periodicals in the Nineteenth and Twenty-First Centuries'.

this competitive commercial landscape by inviting non-specialist readers to be "co-participants" in the production of knowledge. Popularisers thus fashioned expert identities in three strategic ways: by publishing in affordable periodicals, avoiding jargon, and using lots of images; by promoting an ideal of the "exemplary scientist" whose humble background, self-training, and practical experiences served as "a model that readers could imitate"; and by highlighting alternative sites of knowledge-production, particularly the field and museum, where scientific expertise could be gained more accessibly.[447] Peter Bowler traces how the situation developed amid increasing specialisation of the sciences at the turn of the twentieth century. Scientific practitioners were also popularisers, and many successfully wrote for both specialist and lay audiences.[448] However, much like Thornton, Bowler does not address how the popularisation and public reception of the sciences influenced practices on the ground.

This chapter therefore explores the development of popularising practices by late Victorian Egyptologists from a more interactive perspective. It traces how the promotion of the field as a new space for fashioning archaeological authority in turn shaped field practices, as popularisers deliberately positioned fieldwork as something that non-specialists (particularly women) could participate in. Here I speak of fieldwork more broadly, not only referring to activities in the "field," but to the mobilisation, popularisation, and scrutinization of the field in Britain. Egyptologists manipulated the periodical press, but not simply to promote the spectacle of excavations and encourage public subscriptions for fieldwork. They also did this to create a new readership sympathetic to Egyptology as a useful colonial science, and to heroicise field excavators by promoting the field site as an inhospitable and dangerous place, whereby the moral qualities of bravery, endurance, and reliability could be honed, elevating field archaeologists as experts superior to their established museum competitors. I explore these issues in two sections, corresponding roughly to the popularisation of the EEF in the 1880s and early 1890s and of the BSAE in the early twentieth century.

In the first section, I discuss how Amelia Edwards capitalised on her previous popularity as a fictional novelist to promote EEF excavations. She carved a new niche for female participation in fieldwork by soliciting women as local ambassadors to grow the society's pool of public subscribers. Many women, but Edwards in particular, popularised Egyptian fieldwork through newspapers, periodicals, and lectures. Edwards promoted the preservation of Egyptian field sites as a cause for national concern. David Gange discusses the new era of "conservatory Egyptology" ushered in by Edwards during the late 1870s and 1880s. While there was a novel language for

[447] Bernard Lightman, 'Popularizers, Participation and the Transformation of Nineteenth-Century Publishing: From the 1860s to the 1880s', *Notes and Records of the Royal Society* 70 (2016): 343–59.
[448] Peter J. Bowler, *Science for All: The Popularization of Science in Early Twentieth-Century Britain* (Chicago: University of Chicago Press, 2009), 1–8.

promoting the preservation of pharaonic monuments, Gange argues that many ulterior motives, such as the need to fundraise, export antiquities for private collection, and promote biblical or racial theories, actually resulted in the wide-scale destruction of Egyptian material heritage.[449] I build on this research to show that Edwards' pursuit of public accessibility in Egyptology, and her desire to establish her own archaeological authority amidst a diversifying pool of popular writers, trumped many of the individual concerns that Gange notes. As an example, I highlight her public condemnation of Egyptian *sebakh* (fertiliser) digging at Tell el-Yahudiyeh and other mound sites in the Delta, even though Egyptologists quietly benefited from this agricultural practice.

The second half addresses how Flinders and Hilda Petrie, and their students, jointly continued Edward's public-oriented popularising tactics while simultaneously promoting the rigours of archaeological fieldwork. This was especially crucial during the first field season of the British School of Archaeology in Egypt (BSAE) in 1905 to 1906, as this became the Petries' main funding body, demanded public subscriptions. The Petries adopted many of Edward's popularising strategies, including public lectures, popular illustrated articles, exhibitions, and especially criticisms of *sebakhin*. Petrie was all the while writing field reports and books for specialists, branding archaeology as a "systematic" field science, and above all, promoting a new ideal of archaeology as a masculine, virtuous, and heroic affair. Flinders Petrie was not immediately successful in either pursuit, competing with the EEF for public funds and with museum Egyptologists such as Wallis Budge, who was unrivalled in the sheer extent of his popular writings. Petrie sought and struggled to make the field the quintessential site of archaeological knowledge-production, and himself the leading field expert and popular authority on Egyptology.

Edwards and Women's Popularisation of the EEF, 1879-1892

Upon her death in 1892, British readers knew Amelia Edwards as the leading populariser of Victorian Egyptology. The *Saturday Review* concluded "no other writer did so much to render Egypt popular…hers was pre-eminently the role of interpreter."[450] Flinders Petrie likewise eulogised her passing as a "great blow to the popularising of Egyptology in this country."[451] Her popular Egyptological writings were described as "bright and agreeable, full of animation and variety," and "caused many to read of the Pyramids and their problems, who probably would never otherwise

[449] Gange, 'The Ruins of Preservation'; On the early popularisation of the EEF see also Gange, *Dialogues with the Dead*, 175–208.
[450] 'Amelia Blandford Edwards', *Saturday Review*, 23 April 1892, 473–74.
[451] W.M.Flinders Petrie, *Tell El Amarna* (London: Methuen & Co., 1894), 2.

have done so."[452] Edwards fashioned an identity as a populariser of Egyptology using the previous experience and resources she had developed as a writer.

By the time of the EEF's establishment, Edwards was already well-known to Victorian readers for her novels, anthologies, and poetry (**Figure 4.1**). She published eight novels between 1855 and 1880. Her early books, such as *My Brother's Wife* (1855), sold well, but *Barbara's History* (1864) established her reputation. Her final novel of historical fiction, *Lord Brackenbury* (1880), was so immediately successful that it went through fifteen different editions in its first year.[453] Novels were one of several new genres for women writers in this period, including the essay, literary review, periodical column, biographical portrait, the travelogue, and serialised tale.[454] Edwards took advantage of nearly all these avenues. Her stories, poems, and articles appeared in cheap weeklies such as *Chambers Journal*, *Penny Satirist, London Literary Pioneer, Ladies Cabinet, Englishwoman's Journal* (later *Englishwoman's Review*), *Every Boy's Magazine*, *Good Words,* and Charles Dicken's weekly miscellanies *Household Words* and *All the Year Around*. Edwards was also a music, drama, and art critic and a "leader" writer for daily and weekly papers, such as the *Morning Post* and *Saturday Review*. A typical reader solving the puzzle in *Routledge's Every Boy's Annual* in the 1870s would have been unsurprised to find her name as an answer under the category "modern celebrities."[455]

Edwards' first foray into popularising archaeology came in 1877 while on a sketching tour of France with her travelling partner Lucy Renshawe. The pair grew tired of the rainy weather and decided instead to go to Egypt, by way of Italy. They visited Heinrich Schliemann at his home in Athens and Edwards interviewed the "great excavator" in the *Ladies Treasury*. She emphasised that Schliemann was self-made and possessed the unique characteristics of both the "enthusiast" and the "practical man." Schliemann explained to her that "My work now in life is excavation…I must live where there are antiquities to be discovered, and where I am free to excavate."[456] Edwards and Renshawe then spent six weeks on the *dahabiyeh* Philae traveling along the Nile and sketching ruins. Edwards claimed to discover an unexcavated chamber in Ramses II's temple at Abu Simbel (even though it was pointed out to her by the local boatmen).

Upon her return to England she read widely on ancient Egypt, corresponded with Samuel Birch and Reginald Stuart Poole, studied hieroglyphs, and published her travel-book *A Thousand*

---

[452] 'English News', *Woman's Herald*, 23 April 1892, 9.
[453] 'Notes and News', *The Academy*, 6 August 1881; The relative success of Victorian books can be measured by their multiple editions, see Secord, *Victorian Sensation*, 34–35.
[454] Linda H. Peterson, *Becoming a Woman of Letters: Myths of Authorship and Facts of the Victorian Market* (Princeton: Princeton University Press, 2009), 4.
[455] 'Puzzles', *Routledge's Every Boy's Annual*, n.d.
[456] Amelia Edwards, 'The Golden Ornaments of Helen of Troy', *The Ladies Treasury: A Household Magazine*, 1 April 1877, 219–23.

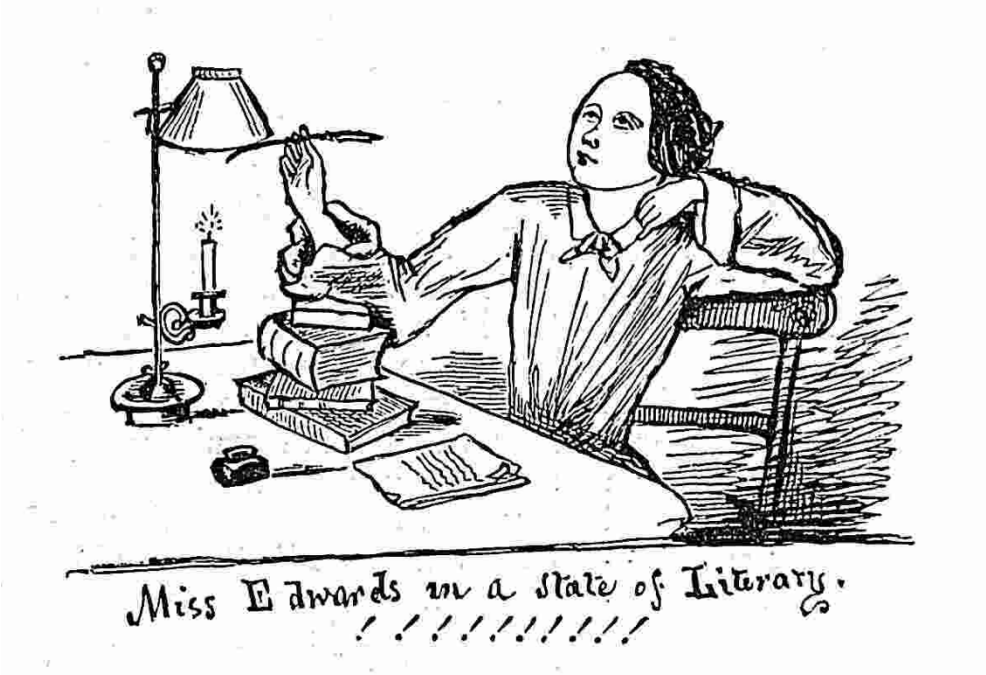


Figure 4.1. Self-sketch of a young Amelia Edwards sent to her friend Esther Du Bois. 'Answers to Correspondents,' *Girl's Own Paper*, 22 October 1892, 64.

Miles up the Nile (1877). The volume was not intended as a portable guidebook with practical information for Victorian travellers.[457] Rather, it was a heavy table-book, lavishly illustrated with engravings from her own watercolours, and expensive at forty-two shillings.[458] Positive reviews focused on the beautiful illustrations and especially Edward's writing style. The *Westminster Review* praised the publication for its magnificent "proportions and outward appearance," for being "luxurious in its wealth of admirable illustrations," and an easy read with wide margins and generous line spacing.[459] The review in the *Academy*, written by her close friend, the poet John Addington Symonds, praised Edwards' "familiarity with the art of novel-writing" that had enabled her to describe life on her Nile boat and Egyptian antiquities with the same ease, making "the task of study easy."[460] With a diversifying audience in mind, Edward's published a second edition in 1879, and a revised "newer and cheaper edition" in 1891.

Edward's travelogue launched her Egyptological career and, largely through having "been there," she was quickly taken up as an authority on ancient Egypt. From 1877, Edwards wrote for weeklies on various aspects of Egyptology. She contributed over one-hundred book reviews, reports, and opinion pieces in the *Academy* alone, never accepting personal payment. Edwards was

[457] This market was dominated by *Murray's Handbook for Travellers to Egypt,* which already had five editions by 1875. The first editions of Thomas Cook's *Tourists' Handbook for Egypt, The Nile, and the Desert* appeared in 1876 and Karl Baedeker's *Egypt: Handbook for Travellers* in 1878.
[458] 'Minor Notices', *Saturday Review*, 13 January 1877, 59.
[459] 'Politics, Sociology, Voyages, and Travels', *Westminster Review* 51, no. 2 (April 1877): 545–46.
[460] John Addington Symonds, 'A Thousand Miles up the Nile', *The Academy*, 27 January 1877, 65.

typical of Victorian women who did not take financial compensation for fundraising. As Frank Prochaska's classic work shows, philanthropy was often the only option for experienced middle-class women to express themselves without the prejudices that came with paid employment. Charity work was thought to capture the moral qualities of compassion, self-sacrifice, dutifulness, and piety associated with being a good wife and mother; it was also an appropriate creative outlet for unmarried "spinsters" like Edwards.[461] With this gender-appropriate duty of social improvement, she served as the EEF's honorary secretary for ten years, campaigning on the society's behalf, writing to donors, lecturing, writing popular books, negotiating the dispersal of antiquities to subscribers, and updating public audiences in newspapers and periodicals on the latest news from the field. In the process, she fashioned herself as more than a travel-writer, but as an Egyptological expert in her own right.

Edward's enthusiastic review of Sir Erasmus Wilson's *The Egypt of the Past* (1881), a work for which she had been consulted, noted how popular the topic had become amongst the reading public. Wilson was not a trained Egyptologist, but a wealthy surgeon who personally provided £10,000 for the removal of Cleopatra's Needle to the Thames in 1877. Despite being the fourth history of Egypt published in Britain within three years, his book was "all that a History of Egypt should be." There was vast gulf, Edwards argued, between books written for general readers and those written for specialists—each presented their own problems.

> It is a book either hopelessly dull or hopelessly misleading. It is a book weighted with prejudice or floated with paradox. If written for the public at large, it is built up of orthodox errors and exploded theories; if written for more advanced readers, it is so largely composed of crude scientific detail as to be scarcely intelligible to any but the professed Egyptologist.[462]

Edwards was pleased to report that Wilson's book contained none of these errors: "Although it is essentially a narrative for the general readers, it is also one which may be read with pleasure by the scientific student." It was accurate, well-written, funny, beautifully illustrated, easy to hold, and "predestined to popularity." Gaston Maspero agreed it would "do much to popularize interest in Egypt."[463] In short, *The Egypt of the Past* was exemplary of Edward's vision for Egyptological communication.

The *Academy* became Edwards' platform for arguing that Egyptology was a matter of public concern and should be accessible to general readers. Due to financial crisis, Egypt was forced to sell its shares in the Suez Canal to the British and French in 1879, and the Khedive stopped

---

461 Frank K. Prochaska, *Women and Philanthropy in Nineteenth-Century England* (Oxford: Clarendon Press Oxford, 1980), 6–7.
462 Amelia Edwards, 'The Egypt of the Past', *The Academy*, 19 November 1881.
463 Warren R. Dawson, 'Letters from Maspero to Amelia Edwards', *The Journal of Egyptian Archaeology* 33 (1947): 72.

subsiding archaeological excavations. The director of the Egyptian Antiquities Service, Auguste Mariette, appealed to the Académie des Inscriptions et Belles-Lettres in Paris to support his programme of fieldwork abroad. Edwards questioned this tactic in the *Academy,*

> One is tempted to ask whether more substantial encouragement might not be forthcoming if M. Mariette were to embody his views in a memoir addressed to a wider audience. Egyptology is a science that appeals not to Egyptologists only, but to archaeologists, philologists, anthropologists, Bible-students, artists, and travellers all over the world. From so large a circle of sympathisers there might easily be collected a reserve fund which should, from time to time, be used to supplement the hoped-for, but too certainly inadequate, Khedival subsidy.[464]

This letter prompted a wider discussion in the *Academy* and *Morning Post*. Swiss Egyptologist Edouard Naville prepared a similar response in the *Journal de Genève*, which he reissued to the editor of the *Morning Post*. The French academy's assistance would not be enough to fully support archaeological fieldwork, Naville argued: "Why not appeal, as elsewhere, to the support of all those foreigners who take an interest in Egypt?" Naville continued, "if political circumstance would make such action difficult to foreign governments, learned societies, private individuals, or even influential newspapers, are in a position to come forward."[465] He suggested such work could be conducted by the Palestine Exploration Fund (PEF), whose members were biblical enthusiasts who sponsored topographical and ethnological expeditionary surveys of the Ottoman Levant region. Perhaps the PEF could "extend its work to the land of the Captivity," referring to the Eastern Delta region in Egypt.[466]

Edwards nonetheless persisted in her belief that Britain deserved a fund that prioritised excavations in Egypt. She succeeded in assembled the first EEF committee early in 1882—and largely through personal outreach and correspondence—secured the support of prominent politicians, religious figures, publishers, archaeologists, museum professionals, and men and women of science.[467] Edwards and Reginald Stuart Poole were elected joint-secretaries to share the immense promoting and negotiating work. Erasmus Wilson was appointed honorary treasurer, personally donating £500 for the first season of fieldwork. The fund required the co-operation of both the French-controlled Egyptian Antiquities Service and Tewfik Pasha, who in 1880 decreed a new "Prohibition of the Export of Antiquities," making all monuments and artefacts property of the Egyptian government.[468] It was also a delicate matter in light of the recent Urabi revolt and growing fears about what quickly escalated into a violent Anglo-Egyptian war (**Figure 4.2**).

---

[464] Amelia B. Edwards, 'Future Explorations in Egypt', *The Academy*, 8 November 1879, 338–39.
[465] Edouard Naville, 'Future Excavations in Egypt', *The Morning Post*, 9 December 1879, 3.
[466] Edouard Naville, 'Exploration in Egypt', *The Academy*, 13 December 1879.
[467] For a full list see Edwards], 'Egyptian Antiquities'.
[468] For a full list of antiquities ordinances in this period, see Stevenson, *Scattered Finds*, Appendix A, 259.

Mariette passed away in the middle of this turmoil, but a younger Maspero was appointed in his place and was more sympathetic to the British cause. Maspero had corresponded with Edwards frequently since 1878. He was an avid fiction reader and loved her novels and travel books. Maspero told Edwards that he "considers archaeology a form of romance in its bringing to life the peoples of the past" and agreed that "the duty of Egyptologists is to interest the public."[469]

It was not easy securing the trust of the Egyptian government following Mariette's death. The French government officially founded the École Française du Caire, also known as the Mission Archéologique, in December 1880 with Maspero at the helm, however the Khedive and his Egyptian ministers delayed its establishment out of suspicion of foreign political motives. These suspicions only grew with British-French dual administration. Maspero advised Edwards and Poole that the Egyptian administration had to be tricked into cooperation. They had to "begin work quietly" and make the society appear to be under sole direction of Egyptian officials.[470] Maspero requested that the EEF sponsor one archaeologist to train with him at first, who could then direct his own excavations. Edwards initially suggested the "great excavator" Schliemann. Maspero disapproved because Schliemann's tendency to solicit "publicity and controversy" might easily offend the Egyptian minister's "sensitive skin." Better to train a young man with potential, "who could soon become something of an Egyptologist."[471] The selected candidate was not all that young, and at the age of thirty-eight, already an established philologist. However, Edouard Naville was unlikely to offend Egyptian or French administrators.

Historians have framed the establishment of the EEF as a critical juncture in the development of "systematic" fieldwork.[472] As I showed in chapter 3, excavation practices changed only gradually, and they were primarily about new social and spatial relations on the field site, as well as the excavator's new concern first-hand witnessing, and training students in a similar fashion. However, one immediate change brought on by the establishment of the EEF was Edwards' intense media campaign targeting the British public. The general story is now well-known. The British government did not sponsor fieldwork, even after the occupation in 1882. Edwards recognised that excavations would have to be financed through public subscriptions from the British working and middle classes and a few wealthy donors. The EEF was part of the growth of British archaeological funds in the late nineteenth century whose committee members aggressively sought public subscriptions and private donors to finance foreign fieldwork. Other examples include the Palestine Exploration Fund (est. 1865), Roman Exploration Fund (est. 1869), Asia

469 Dawson, 'Letters from Maspero to Amelia Edwards', 68.
470 Ibid., 73–74.
471 Ibid.
472 James, *Excavating in Egypt*; Margaret S. Drower, 'Gaston Maspero and the Birth of the Egypt Exploration Fund (1881-3)', *The Journal of Egyptian Archaeology* 68 (1982): 299–317; Janssen, *The First Hundred Years*; Patricia Spencer, *The Egypt Exploration Society: The Early Years* (London: Egypt Exploration Society, 2007).

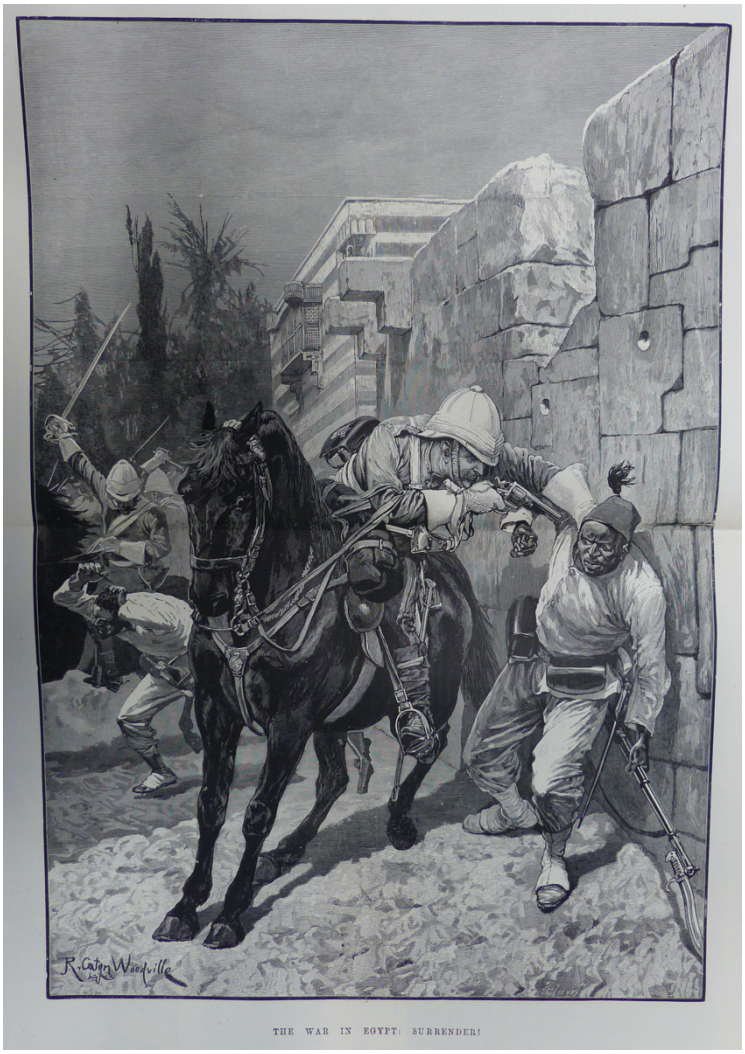


Figure 4.2. "The War in Egypt: Surrender!" *Illustrated London News*, 16 September 1882.

Minor Exploration Fund (est.1882), Cyprus Exploration Fund (est. 1887). The escalation prompted Augustus Pitt-Rivers, in his role as First Inspector of Ancient Monuments, to appeal in *The Times* for public subscriptions to support an "English Exploration Fund" for excavations in Britain.[473] Edwards' promotion of EEF fieldwork was directed towards growing the society's list of subscribers.

Edwards was an ideal candidate to lead an intense publicity campaign. After the success of her travelogue, many readers regarded the "accomplished authoress" to be "by far the most advanced authority on Egyptian research" in Britain.[474] She knew how to write in an accessible style, and she was especially well-known to an attentive female audience. There was some female membership in small country archaeological societies throughout the nineteenth century, however, women were generally discouraged (if not outright banned) from attending the meetings of larger

[473] Amara Thornton, "'… a Certain Faculty for Extricating Cash": Collective Sponsorship in Late 19th and Early 20th Century British Archaeology', *Present Pasts* 5 (1), no. 1 (2013): 3–4.
[474] William Copley Winslow, 'The Excavation of Zoan', *John Bull*, 29 December 1881, 841.

metropole-based societies or publishing in their *transactions* and *proceedings*.[475] The majority of middle-class women pursued their interests in excavations by reading travelogues, excavation reports, newspaper communiques from the field, and popular books. Museums in particular served as important, quasi-domestic spaces in which women shaped Egyptological fieldwork; either by attending museums, working in museums, hosting and giving lectures, donating to museums, or facilitating the growth of archaeological collections.[476] Edwards actively invited female participation in fieldwork by seeking public subscriptions from women and especially, by recruiting local female ambassadors for the promotion of EEF activities. She believed that Egyptology was "especially a field in which woman's work" was successful because "ladies make the best beggars in the world, and their begging is always likely to be more fruitful than that of gentlemen, because gentlemen do not like to refuse them."[477] Edwards was facilitating the creation of new regional spaces for women to fashion their own expert identities in Egyptology.

As Kate Hill and Alice Stevenson have noted, numerous women were essential in the development of the "finds distribution network."[478] From 1884 until the First World War, foreign archaeologists in Egypt dispersed excavated artefacts through a mandated (but still flexible) system of "partage," divided between French-controlled Egyptian Institutions and the excavators themselves. The latter partitioned their share of artefacts across vast networks. The EEF archaeologists retained some for annual exhibitions and some, later, for UCL teaching purposes. The rest were presented as diplomatic gifts to larger institutions, such as the British Museum, to smaller museums who subscribed to fieldwork, and to wealthy private donors, many of whom were women subscribers and friends of Edwards. Annie Barlow, daughter of a wealthy mill-owner, was a local EEF ambassador in Bolton, and her support of fieldwork was rewarded with several collections of finds that she donated to the Bolton Museum. Marianne Brocklehurst and Mary Booth were two more regional supporters of the EEF in Macclesfield who travelled to Egypt together five times. Brocklehurst donated her collection of antiquities she smuggled out of Egypt, and those received from EEF excavations, to establish the Macclesfield's West Park Museum in 1898. Kate Bradbury was both a local EEF ambassador in Manchester and a tireless committee member for the Fund. Bradbury married younger Egyptologist Francis Llewelyn Griffith and her family endowment supported the couple's work and subsequently helped establish the Egyptology department at the University of Oxford in 1901. By 1900, more than half of EEF's twenty-nine local honorary secretaries in Britain were women. Five of these women were also full committee

[475] Hill, *Women and Museums*, 159–64. For instance, Maria Evans, who was trained in Classics at Somerville College, Oxford, was banned from the Society of Antiquaries in 1892 even though her husband John Evans was president.
[476] Ibid., 2.
[477] Ibid., 167.
[478] Ibid., 166–69; Stevenson, *Scattered Finds*, 55–62; Stevenson, 'Artefacts of Excavation'.

members, and of the 559 subscribers that year, at least 176 were women. Victorian women were so significant in establishing local Egyptological collections and popularising fieldwork regionally across Britain, that Kate Hill has remarked that British Egyptology was "created by women."[479]

Edwards also made Egyptology accessible through annual public lecture tours that were exceptionally well-attended. She chose topics general enough to draw in large crowds, but always used recent EEF discoveries to support her personal views and legitimise the work of the fund. For example, she promoted the EEF in Lancashire in 1887 giving several lectures on "Buried Cities of Ancient Egypt" and "The Social and Political Position of Women in Ancient Egypt." Her lecture on November 2nd at the Mayor's Parlour in Manchester was reportedly "crowded to excess" while her lecture on the 15th at Stockport Sunday School was attended by over two thousand people.[480] She embarked on a larger five-month lecture tour in America in the Autumn of 1889, accompanied by Kate Bradbury. To mark the occasion, a poem titled "A lecturing tourist" appeared in the satirical weekly *Moonshine*: "Amelia B., Has gone to see, Her Uncle Sam, 'tis stated; Let's hope that she, As well as he, Will be Amelia-rated."[481] Edwards gave a remarkable sixty lectures during her American tour, even though she apparently "had applications for more than three thousand."[482] She averaged six lectures a week across fifteen major cities, addressing over one hundred thousand people, and "giving great impetus to the cause of Egyptian exploration and research."[483] She was an impressive lecturer. One American critic described her voice as "music itself." Other rave reviews praised her articulation, enunciation, and her manner which "was always high-bred, exquisitely quiet and ladylike."[484] The topics from her American tour were summarised in her penultimate popular book *Pharaohs, Fellas and Explorers* (1890), which was described as "profusely illustrated" and sold for only eighteen shillings.

The popularisation of Egyptology through public lectures was, for many, also a key component in the women's rights movement. Edwards was vice-president of the Bristol and West of England branch of the National Society for Women's Suffrage, and one of several literary women who signed a petition to William Gladstone to give property-owning women the right to vote. She regularly attended and spoke at suffrage meetings in London and strategically lectured on women's liberated roles in ancient Egypt. Edwards recruited executive council member Frances Cobbe to become an EEF member, writing to her "I assure you…it is not your money or your life

[479] Hill, *Women and Museums 1850-1914*, 167 also contains a fuller list of female EEF secretaries; Stevenson, *Scattered Finds*, 57.
[480] 'Record of Events', *The Englishwoman's Review*, 15 December 1887.
[481] 'A Lecturing Tourist', *Moonshine*, 9 November 1889.
[482] 'Current News about Women', *Women's Penny Post*, 7 September 1889, 2.
[483] 'Miss Amelia B. Edwards' Lecture Tour in the U.S.A.', *The Englishwoman's Review*, 15 May 1890, 214.
[484] 'Miss Amelia B. Edwards, Authoress and Egyptologist', *The Woman's Herald*, 28 May 1892, 7.

that I want—but your *name*…especially the names of eminent women."[485] Victorian weeklies like the *Englishwoman's Review* and *Women's Penny Press*, which claimed to be the only paper "conducted, written, and published by women," closely-tracked her American tour. Her arrival in the States was celebrated in a reception by the New England Woman's Press Association and attended by at least 250 people. It was reportedly "the first occasion on which any woman's organisation in America [had] offered a complimentary entertainment."[486] Edwards thanked the association for supporting the higher education of American women. Local female secretaries and subscribers of the EEF in the United States outnumbered even those in Britain. On reviewing her lecture, the *Women's Herald* reported that "The Egypt Exploration Fund cannot be said to undervalue the services of women."[487] It was in this spirit too that Edwards chose University College London to bequeath a chair in Egyptology in 1893, along with her collection of books and antiquities, because UCL was the only institute to award women degrees.

Part of the appeal for women in the popularisation of fieldwork was that it afforded an accessible route into the emerging discipline. As Thornton details, many other women associated with the early EEF, such as Mary Brodrick, Anna Anderson Morton, Helen Beloe Tirard, and Emily Patterson, became prominent "lady lecturers" and "lady guides" in the British Museum and other institutions.[488] This helps explain why the keepers of the British Museum were unsupportive of EEF popularisation. Samuel Birch had once enjoyed a good relationship with Edwards, who, upon returning from Egypt, spent many hours in his office learning hieroglyphs. However, Birch frowned upon the EEF's compromise with the antiquities' authorities in Egypt and told Edwards he was "not prepared to surrender to the idea of sentimental excavations."[489] Similarly, Birch's successors Peter Le Page Renouf and E.A.Wallis Budge had no interest in the types of objects Petrie was sending to the museum from his excavations. They complained to Edwards that the "vast quantity of pottery and small objects" collected and offered to the museum by the fund were "worthless." He could not take on "the responsibility of crowding the museum with such a number of valueless objects."[490]

Birch's assessment of the EEF's campaigns as "sentimental" was undoubtedly a remark about female involvement in the society. But more broadly, professional opposition to science popularisation was common in in the late Victorian period. Similar tensions arose between astronomers Normal Lockyer and Richard Proctor. Proctor was fiercely anti-professional science

[485] Cited in Stevenson, *Scattered Finds*, 58.
[486] 'Our Sisters across the Seas', *Women's Penny Paper*, 4 January 1890, 128; 'Colonial and Foreign Notes', *The Englishwoman's Review*, 15 January 1890, 43; 'Miss Amelia B. Edwards' Lecture Tour in the U.S.A.'
[487] 'Women's Suffrage', *Woman's Herald*, 7 March 1891, 311.
[488] Thornton, *Archaeologists in Print*, 48–56.
[489] Birch to Edwards, 19 May 1880, III.j.19, Egypt Exploration Society.
[490] Le Page Renouf to Edwards, 2 November 1886, III.a.47, Egypt Exploration Society.

and designed *Knowledge* for the masses as a rival to Lockyer's *Nature*. Proctor complained that it was difficult to find authors who could write for a general audience, and often resorted to writing articles himself.[491] Proctor and Lockyer both published pyramid theories, and Proctor himself lectured on the topic.[492] Thus Edwards, the popular fictional and travel writer, was invited to publish a sixteen-part series in *Knowledge* entitled "Was Ramses II. The Pharaoh of the Oppression?" Published between 2 June 1882 and 19 January 1883, they spanned the climax and aftermath of the Anglo-Egyptian war. The articles prepared a new audience to anticipate Naville's excavation results in 1883. The eighth article in the series explained to readers,

> Whether the mounds of Tel el-Maskhuta do, or do not, cover the ruins of the city of 'Ramses' is a question which can, perhaps, only be placed beyond dispute by the spade of the excavator; but, penning that final test (which I trust is not far distant), the evidence in its favour is undoubtedly very much stronger than any which can be advanced in favour of other sites before mentioned.[493]

It is worth noting that here, as in her published interview with Schliemann, Edwards promoted the locality of the excavator, with his identity bound-up in the perception of his first-hand discoveries. Another article penned by Edwards appeared on the same page, titled "The Seat of War in Egypt," highlighting that the mounds on which Wolseley's troops were currently camped had "biblical and archaeological interest."[494] Her final article invited "others to decide whether I have, or have not, succeeded in proving my case as far as it can be proved," and hoped "that pick and spade" would settle the problem in "excavations of the historic mounds of the Delta."[495]

By publishing in popular periodicals such as *Knowledge*, Edwards was reconfiguring the EEF's work in the Delta as a "Christian science" to undermine secularising movements of the era.[496] She was moreover establishing a very particular identity for herself as a non-elitist populariser. When one reader of *Knowledge* questioned her chronology, she replied "I do not profess to be a chronologist" and that she used "figures and dates only for *convenience*" in presenting the available sources, theories, and debates about the biblical Exodus from Egypt.[497] Edwards continued throughout her career to author lengthy, illustrated pieces in the *Illustrated London News*,

---

[491] Bernard Lightman, 'Knowledge Confronts Nature: Richard Proctor and Popular Science Periodicals', in *Culture and Science in the Nineteenth-Century Media*, ed. Louise Henson et al. (Aldershot: Ashgate, 2004), 199–2010; Lightman, *Victorian Popularizers of Science:*, 302–5; Lightman, 'Popularizers, Participation and the Transformation of Nineteenth-Century Publishing', 354.
[492] 'Science and Art Gossip', *Knowledge* 2, no. 41 (11 August 1882): 187. "The Great Pyramids" was listed as one of Proctor's public lectures on Astronomy.
[493] 'Was Ramses II. The Pharaoh of the Oppression? VIII. Conditions of Place and Date', *Knowledge* 2, no. 45 (5 September 1882): 244.
[494] Amelia Edwards, 'The Seat of War in Egypt', *Knowledge* 2, no. 45 (5 September 1882): 244–45.
[495] Amelia Edwards, 'Was Ramses II. The Pharaoh of the Oppression?', *Knowledge* 3, no. 64 (19 January 1883): 36–38.
[496] Gange, *Dialogues with the Dead*, 175–208.
[497] Amelia Edwards, 'Egyptian Chronology', *Knowledge* 2, no. 46 (12 September 1882): 267.

Harper's Magazine and in the New York-based monthly *Century Illustrated Magazine*.[498] British Museum Egyptologists were perhaps the main rivals to popularisers, and it is rather unsurprising that they found the EEF's new authority threatening. As discussed in the final section of this chapter, this tension escalated in the subsequent decades as museums professionals and field excavators competed for authority in archaeology.

Preserving *Tells* and *Sebakh*

As the common story goes, Amelia Edwards claimed to be so shocked by the destruction of monuments during her travels in Egypt that she established the EEF to promote the urgent preservation of Egyptian antiquities.[499] Her travelogue contemplated the sad state of Egyptian monuments. Every person who came in contact with ancient materials seemed to aid in their destruction. Edwards argued that intervention was urgent: "The work of destruction, meanwhile, goes on apace. There is no one to prevent it; there is no one to discourage it. Every day, more inscriptions are mutilated—more tombs are rifled—more paintings and sculptures are defaced."[500] Edwards thus ushered in a new era of "conservatory Egyptology," mainly through the rhetoric of urgent intervention.[501] A major feature of the EEF's marketing campaign in the first years was an appeal to preserve the monuments of Egypt, which capitalised on a major trend of the period.[502] Poole and Edwards were both present at the fourth annual meeting of the Society for the Protection of Ancient Buildings (SPAB) on 24 June 1881. Edwards spoke about "the war of extermination which is being waged against the monuments of Ancient Egypt by the Government of that country, by the Arabs, and by travellers."[503] Poole's lecture, later published, made a plea that became commonplace for the EEF: "[Ancient monuments] exist for the benefit of the [British] nation, and it is our duty to wake public interest in the matter."[504]

The preservation theme was presented as a cause for national concern. The British government's lack of support for archaeological fieldwork in Egypt was the subject of back-and-forth debates that played out across British newspapers.[505] Britain now shared colonial

---

[498] Amelia Edwards, 'Bubastis: An Historical Study: Prefatory Note', *Century Illustrated Magazine*, January 1890; Amelia Edwards, 'Lying in State in Cairo (with Sixteen Illustration)', *Harper's Monthly Magazine, European Ed.* LXV (November 1882): 185–204; Amelia Edwards, 'The Story of Tanis', *Harper's Monthly Magazine, European Ed.* XII (November 1886): 710–38.

[499] This is the standard account according to most histories of Egyptology, notably James, *Excavating in Egypt*.

[500] Edwards, *A Thousand Miles up the Nile*, 323.

[501] Gange, 'The Ruins of Preservation'.

[502] See chapters in Swenson and Mandler, *From Plunder to Preservation*.

[503] Amelia Edwards, 'Notes and Art in Archaeology', *The Academy*, 9 June 1881, 38.

[504] Reginald Stuart Poole, 'The Egyptian Tomb and the Future State', in *Lectures on Art: Delivered in Support of the Society for the Protection of Ancient Buildings* (London: Macmillan and Co., 1882), 24.

[505] On the reluctance of the British consul-general in Egypt Evelyn Baring (later Lord Cromer) to support British fieldwork, see Donald Reid, *Whose Pharaohs?*, 181–82.

administration of Egypt with France, which continued to preside over archaeological permits and antiquities in the Boulaq Museum. Maspero, frustrated by the inadequate number of staff and funds given to his department, appealed directly to the British public in *The Times*: "The artistic and archaeological treasures of Egypt are open to pillage throughout two-thirds of the Egyptian territory." He asked that the British government not "diminish the little it gives to me" and pleaded "the smallest sums of money will be welcome." The letter was translated and published by Colin C. Scott-Moncrieff, a British engineer and colonial official recruited from India to take charge of Egypt's department of Public Works. Scott-Moncrieff agreed that the British government should make Egyptian heritage a priority in its annual budget in light of the thousands of British tourists the country attracted every year. Unlike the French, "We have no savants with our army of occupation, and we like in England to subscribe voluntarily to causes like this, rather than that our Government should subscribe for us.[506]

The public appeal for the "Maspero Fund" appeared to conflict with the EEF's subscription campaigns. Poole quickly clarified the EEF was "entirely in harmony with M. Maspero and would not divert anything from his proposed fund. There is interest enough in this country in the subjects elucidated to support the two enterprises."[507] However, the preservation theme proved far less successful in Britain than it did in France. A correspondent in the *Academy* reported "The French are responding with liberality and promptitude to M. Maspero's appeal for pecuniary aid in support of his newly established staff of local guardians and superintendents of antiquities in the valley of the Nile." This was a national embarrassment: "it is somewhat humiliating to learn that our own response has been, thus far, much less ready."[508] Several months later, Scott-Moncrieff also lamented his disappointment in the British reception of Maspero's letter.

> In England it produced exactly £92, subscribed by ten English ladies and gentlemen. This was not encouraging. But it was republished in Paris…and the subscription was closed when they sent M. Maspero £1,000. I could not help telling him how vexed I was that my country was so lukewarm in his cause, at a time, too, when Egypt excited such interest. But he at once generously reminded me that this was not the only thing England did towards Egyptian research…[509]

Maspero was referring to French and British disagreements about how to best protect Egyptian antiquities. The French wished to invest in staff to guard excavated sites and stock the Egyptian national museum. The British pursued preservation through excavation—or at least claimed to do so—and bringing objects to Britain.

---

[506] C.C. Scott-Moncrieff, 'M. Maspero's Work in Egypt', *The Times*, 23 February 1884, 3.
[507] Reginald Stuart Poole, 'The Egypt Exploration Fund', *The Times*, 26 February 1884, 4.
[508] 'The Maspero Fund', *The Academy*, 29 March 1884, 230.
[509] C.C. Scott-Moncrieff, 'M. Maspero's Excavations in Egypt', *The Times*, 24 July 1884.

Despite international and national rivalries, preservation was promoted in Britain to legitimise archaeology as a useful science, alongside public appeals for biblical archaeology. With Edwards at the helm, the EEF focused their first ten years of fieldwork (1882-1892) in the Eastern Delta, the region long identified as the "land of Goshen." Edwards brilliantly presented this to the British public as a deliberate choice, an opportunity to excavate the route of the Exodus and sites of biblical and classical interest.[510] This masked the political and geographical reality—that Maspero and his successors restricted British permits to this region, saving the romantic, sandy, and much-preferred temples, tombs, and monuments of Upper Egypt for French excavators. The Delta region presented a new set of challenges for both EEF excavators and popularisers. The flat terrain was often water-logged and difficult to live in, especially in a simple tent. Antiquities were hidden away within large *tells*—abandoned mounds built up over thousands of years from human occupation—that covered the region. Some of these *tells* were located under modern villages, making them impossible to excavate. Others were covered by modern cultivation and inhabited by *fellahin* and *Bedouin* who worked the land. Selecting sites to excavate took time—yet another reason Petrie insisted on training assistants and students to take control of excavations while he left to survey the surrounding area.

Not only were *tells* uninspiring, they were difficult to excavate, requiring trained eyes, bodies, and plenty of patience. This was the context for Naville and Petrie's well-known feud. Edwards selected Petrie for the second season; in part because Naville was not interested in returning to Tanis. Petrie's self-presentation as patient, observant, disciplined, thorough, quick, and willing to live in less-than ideal circumstances, was perhaps more suitable for *tell* work. Whereas it was claimed that Naville dug through the mounds without such sensitivities to detail. As David Gange shows, Naville and Petrie publicly disagreed about how preservation, and thus archaeology, should be practiced in these sites. The pace of excavations in the Delta increased rapidly as they competed to excavate *tells* before the other, and they caused widespread damage in stark contrast to the EEF's "conservatory" agenda.[511]

Fieldwork in Delta *tells* was so difficult that it often did not meet with the desired results. Lack of success was often blamed, not on the excavators, but on the destruction to mounds caused by Egyptian *fellahin*. EEF archaeologists generally went to Egypt annually from late November to early May, corresponding to the tourist and low water seasons. The archaeological off-season, spent writing, exhibiting, and lecturing in Britain, meant that sites were susceptible to Egyptian interference. This may have been a legitimate source of anxiety for British Egyptologists, but they also used it to their advantage by promoting the urgent preservation of *tell* sites. In doing this, EEF

[510] Gange, 'Religion and Science'; Gange, *Dialogues with the Dead*, 157–63, 175–96.
[511] Gange, 'The Ruins of Preservation'.

archaeologists and popularisers told the average British reader that they were superior to uncultured native Egyptians who did not appreciate their material heritage and indeed were actively destroying it. They described *fellahin* as secretive and conniving, trying to thwart British interests. Popularisers thus created a sympathetic audience who believed Britain had a moral obligation to help and viewed "systematic" archaeological fieldwork as an altruistic cure. Egyptologists claimed to be saving these sites from the hands of reckless *fellahin*, in the name of "English science."

This rhetoric of destruction had been levied against Egyptians throughout the nineteenth century for using pharaonic monuments as raw resources in industrialising projects rather than valuing them as historical antiquities. Earlier in the century, the temple of Dendera was quarried for a cotton cloth factory in Qena, Karnak's ninth pylon was dynamited for blocks for a saltpetre factory, and Muhammad Ali had considered quarrying the pyramids to build the Nile Barrage. These were all cited by François Champollion as reasons to enact the first antiquities ordinances in 1835, blaming *fellahin*, antiquities dealers, and European collectors alike for the destructions of monuments.[512] The pyramid remained intact but the stones surrounding the pyramids continued to be taken for kilns, as Petrie observed when he complained about these activities to Birch in 1881: "the Arabs are only watching their chance; they have made a clean sweep of the great causeway; and nearly demolished the basalt paving E[ast] of the great pyramid, for the sake of the limestone foundation fit for lime-burning."[513]

Another common complaint was that locals were digging up antiquities and selling them in their villages. Similar criticisms were charged against Victorian tourists but rarely against antiquities dealers such as Chester, who purchased these pieces and sold them to museums in Europe. However, archaeologists often benefited from these *fellahin* activities. In the same letter that Petrie complained about lime-burning, he conceded that he could "take advantage of the extensive and destructive native diggings." Petrie also regularly visited antiquities dealers in Cairo to stock his teaching collections at UCL. Europeans moreover only became aware of the existence of mound sites because of the antiquities that were dug up and sold in neighbouring villages. As discussed in chapter 2, this is how both Émile Brugsch and Greville Chester independently located Tell el-Yahudiyeh and collected the tiles that stimulated further archaeological interest in the site. Double standards were rife. British archaeologists reluctantly relied on Egyptian knowledge and labour because it was useful, but just as quickly condemned their practices and motives.

This tension played out further as EEF archaeologists cleared mounds in the Delta, condemning the practice of *sebakh* (fertiliser) digging. *Fellahin* (in these instances often described by archaeologists as *sebakhin*) dug up mound sites in Lower Egypt from at least the 1820s. This

[512] Reid, *Whose Pharaohs?*, 54–58, 60–61.
[513] Petrie to Birch, 27 January 1881, 4713, Middle East Library, British Museum.

began when Muhammad Ali's new agricultural and economic reforms came into effect in the first half of the century. Production of long staple cotton in the Delta increased rapidly during the "cotton boom" of the 1860s, which was facilitated by the vacuum created by the American Civil War, and especially after the British Occupation. Cotton exportation became Egypt's main economic contribution to the European, especially British, textile industry. Lower Egypt was considered the "cotton sector" with approximately two-thirds of the cultivated land used to grow crops.[514] Agricultural and economic expansion, as a mode of capital production, transformed the Egyptian peasantry. A new system of private landownership was born in the 1840s, whereby groups of villages were put into the custody of individual officials and were subject to the "new order" of control and constant supervision. With increasing European capital flowing into these private estates by the late nineteenth century, the system created a class of landless Egyptian workers who formed the basis of a growing wage economy.[515] They also formed the core workforces on archaeological excavations. Rural Egyptian labourers were therefore explicitly tied to British industrialists and merchants in more than one way. The former planted and harvested the cotton cash crops and excavated antiquities which were exported to industrial towns in the North of England. Wealthy mill-owners and their families in-turn funded and promoted archaeological fieldwork.[516]

Very few British Egyptologists explicitly recognised the colonial infrastructure from which they benefitted. In some cases, as with their criticisms of *sebakhin*, it's almost as if they believed they were getting the short end of the stick. During the archaeological off-season, Egyptian labourers dug through *tells* collecting fertiliser. The soil was known to be particularly good for growing crops due to the high level of nitrates from decomposed ancient mudbrick.[517] British audiences were aware of and made light of the connection between *sebakh* and archaeology. A short excerpt titled "The Raw Material Wanted" ran in *Punch* in 1869, suggesting the common biblical idiom "There is Corn in Egypt," might be exchanged by Manchester and Liverpool for "There is

[514] Roger Owen, 'A Long Look at Nearly Two Centuries of Long Staple Cotton', in *Agriculture in Egypt: From Pharaonic to Modern Times* (Oxford: Oxford University Press for the British Academy, 1999), 347–66; Roger Owen, *The Middle East in the World Economy 1800-1914* (London: Methuen, 1981), 135–48; Mitchell, *Colonising Egypt*, 15–16.
[515] Brown, 'Who Abolished Corvee Labour in Egypt and Why?'; Mitchell, *Colonising Egypt*, 43, 95–98; Timothy Mitchell, *Rule of Experts: Egypt, Techno-Politics, Modernity,* (Berkeley: University of California Press, 2002), 54–93.
[516] Quirke, 'Interwoven Destinies', 247–48 hints at this relationship but does not expand.
[517] Donald M. Bailey, 'Sebakh, Sherds and Survey', *The Journal of Egyptian Archaeology* 85, no. Journal Article (1999): 211–18.

Figure 4.3. Horrible results of using the 'Egyptian Fur-tiliser,'" *Punch*, 15 February 1890, 81.

Cotton in Egypt."[518] When a large shipment of mummified cats arrived at Liverpool museum in 1890, *Punch* ran a satirical cartoon with the caption "Horrible results of using the 'Egyptian Fur-tiliser.'" (**Figure 4.3**) It depicted the "cargo of 180,000 mummified cats" who had "just landed at Liverpool, to be used in Manure." The mummies, purchased by Liverpool-based merchants Leventon and Co., were shown coming alive to take their revenge on British farmers.

One mound site that had been struck particularly badly was Tell el-Yahudiyeh. Virtually every European who encountered the site in the nineteenth century commented on this, although *sebakh* digging appears to have escalated in the 1870s, following the cotton boom. After having excavated the site in 1870, Émilie Brugsch wrote in 1885,

> The position of the ruins has unfortunately lent itself too well to the ravages of all kinds, and even the change in the terrain of the ruins over the past 16 years, caused by the search for *sebakh*, is so great that when I last visited it, barely a year ago, I had the greatest difficulty in recognizing the place of the temple from which the glazed tiles came.[519]

[518] 'The Raw Material Wanted', *Punch*, 18 December 1869.
[519] Brugsch-Bey, 'On et Onion', 6.

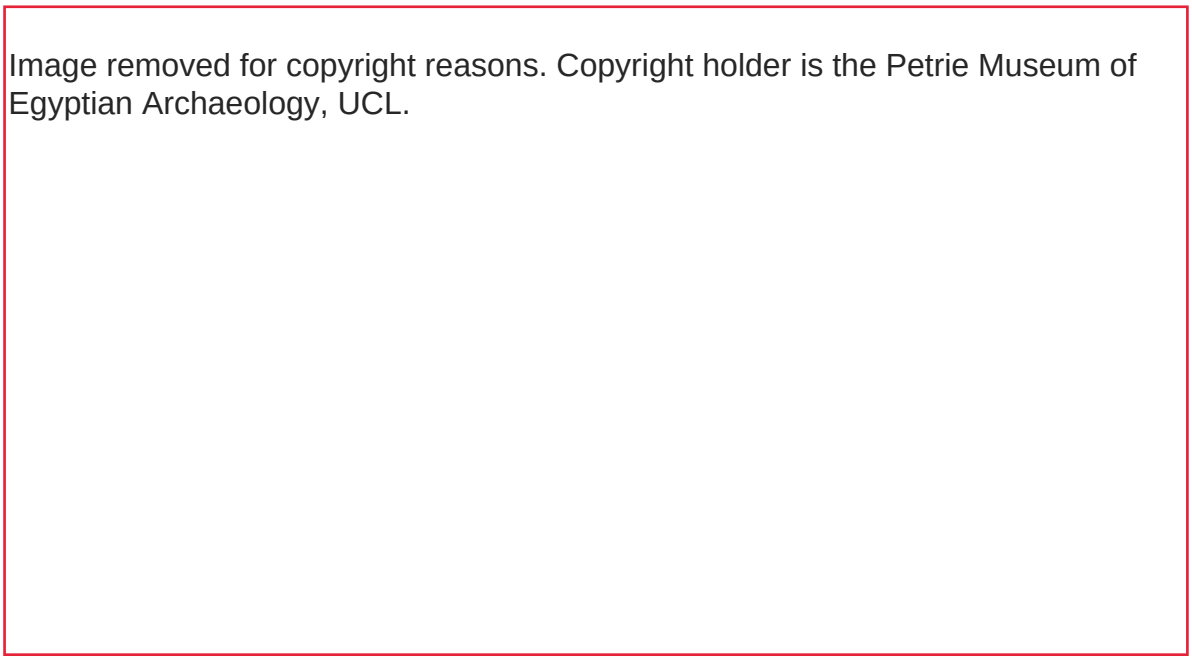


Figure 4.4. Egyptian boys and girls excavating Tell el-Yahudiyeh during Naville and Griffith's excavation for the EEF. Photo taken by Petrie when he visited the site in 1887. From the Petrie Museum of Egyptian Archaeology.

Edwards sent Naville to excavate the mound for the EEF in March 1887, assisted by Francis Llewelyn Griffith, who had just taken a six-week trip with Petrie to survey sites further south. Naville had only been working at the *tell* for a week before he wrote Edwards signalling his frustration at the state it was in (**Figure 4.4**).

> Tell el Yaoudieh is a *Tell* which has been excavated to the bottom. In many places a few inches digging brought us to the sand of the desert. But it is not the work of scientific exploration, it is the result of the work of *sebakh* diggers, who have destroyed nearly everything which is described by Mr. Hayter Lewis's article.[520]

Four days later Naville sent Edwards his field notes for an article in *The Times* concluding he "excavated there for more than a week without any results except the stone with the name of the unknown king." The *sebakhin* were apparently to blame for his failure.

Edwards annotated Naville's notes to re-write them for publication. In one section, Naville repeated "the other parts of the *tell* have been excavated by the sebakhin down to the bottom," which Edwards underlined.[521] She elaborated in *The Times* that "the irresponsible fellaheen…invariably excavate the mounds of ancient cities for '*sebakh*,' or brick-dust manure."

[520] Naville to Edwards, 13 March 1887, V.e.13, Egypt Exploration Society.
[521] Naville notes, 17 March 1887, V.a.2, Egypt Exploration Society

> It unfortunately so happened that in 1870 these destructive sons of the soil came upon the remains of a magnificent building which till then has lain *perdu* in the heart of the *Tell*. [Many artefacts] were turned up, broken, sold, and dispersed before any steps could be taken to preserve them. What that building was, whether temple or palace, we now can never know…It is almost unnecessary to add that since 1870 the *fellaheen* of the neighbourhood, stimulated by the hope of finding saleable antiquities, have gone on digging with redoubled industry. Hence the lofty mounds and far-reaching brick ruins seen and described by Sir Gardiner Wilkinson have well-nigh disappeared. Such, in brief, is the story of the city of Onia and "the Mound of the Jews"; and such is the very pretty historical problem which the Egypt Exploration Fund has commissioned Mr. Naville to solve, before all possibility of solution shall have returned to dust in the form of '*sebakh*.'[522]

Edwards further criticised the Tell el-Yahudiyeh *fellahin* in her four-page spread in the *Illustrated London News*. She told readers the once-massive mound had "been dug away" and "only a few tower-like masses were left standing here and there, like isolated cliffs in the midst of a wide field of rubbish." She further explained "this work of destruction has been done by the *fellaheen*, who are, unfortunately, but too well acquainted with the value of nitrogenous brick-dust manure, and who are fast destroying the mounds of Lower Egypt."[523] To effectively illustrate the problem of the "native diggers," Edwards produced a sketch of the mound showing some of the "tower-like masses" with depressions in between them indicating where soil had been removed. The sketch had been copied from a photograph taken by Petrie when he had visited Naville on site that March. In the sketch, Edwards placed a *fellah* standing centre in front of the destruction. She reproduced the image again in her popular book *Pharaohs, Fellahs and Explorers* (1891). This time, the *fellah* was removed from centre and replaced by two more at the side of the mound (**Figure 4.5**). The caption under the photo read:

> This mound, excavated by M. Naville in 1887, gives an excellent idea of a mound which has been cut and caved away by many generations of Arab husbandmen. The whole mound was originally a homogenous mass of the height of the nearest mass, which is scaled by the small human figured to the left of the picture.[524]

In the final report Naville also emphasized that "nearly all the monuments indicated either by Brugsch or by Prof. Lewis have vanished, and I could find no traces of them." Working at another "considerable *Tell*" later in the season, Tukh el Karmus, Naville noted "It was even but little worked for *sebakh*, and the opinion of the natives was that nothing had ever been found there. In this case they spoke the truth. There never was a more disappointing *Tell*."[525]

---

[522] [Amelia Edwards], 'The Egypt Exploration Fund: The City of Onia and "The Mound of the Jews"', *The Times*, 20 April 1887.
[523] Amelia Edwards, 'English Exploration in Egypt', *Illustrated London News*, 17 September 1887, 355.
[524] Amelia Edwards, *Pharaohs, Fellahs, and Explorers* (New York: Harper & Brothers, 1891), 19.
[525] Naville and Griffith, *The City of Onias*, 7, 29.

Figure 4.5. Two different manipulations of a photograph of Tell el-Yahudiyeh, highlighting the destruction caused by *sebakhin*. Top: Amelia Edwards, "English Exploration in Egypt: The Season's work in the Delta," *Illustrated London News*, 17 September 1887, 355. Bottom: Amelia Edwards, *Pharaohs, Fellas, and Explorer* (New York: Harper and Brothers, 1891), 19.

Even though he was frustrated by the *sebakhin*, Naville acknowledged how he benefited from their digging. He wrote Edwards that after leaving the mound, he and Griffith "went further to the border of the desert where the Arabs told us there were 'chambers'…the legend of the Arabs is that a few years ago the Bedouins began to dig there and found white stone which terrified them so much that they fled away after having covered what they had found." They thus planned to spend the following week excavating in that necropolis.[526] Writing in *The Times*, Edwards completely left out the assistance of these locals and the crucial information they gave Naville and Griffith. Egyptians were routinely described as interfering, but rarely assisting.

In general, Egyptologists described Egyptian digging (whether for *sebakh* or antiquities) as beneficial *only* when it led to new discoveries which they could later claim as their own. Ali Gabri's brother, Sheikh Ruhuma, brought Petrie to the site of Naukratis in 1883, to show him the spot where he uncovered some alabaster figure while sifting through the soil.[527] He returned to excavate the important site the following year. Similarly, in 1887, the same year Naville was in Tell el-Yahudiyeh, an Egyptian woman digging through the mounds of Tell el-Amarna uncovered a cache of over three hundred and fifty clay tablets. The "Amarna tablets" quickly captured Egyptologists' and Assyriologists' attention because they were written in Akkadian cuneiform and revealed crucial diplomatic correspondence across the Near East during the New Kingdom period. Budge purchased eighty-two of the tablets for the British Museum in 1888. In contrast to European excavators' active search for antiquities, Budge's introduction to the museum's copies described the woman's activities as unintentional: "The discovery is said to have been accidentally made by a peasant woman when searching for antiquities in the loose sand and broken stones at the foot of the mountains behind the village."[528] This "accidental" discovery encouraged more interest in the abandoned ancient city. Just having left the EEF for the first time, Petrie took advantage of the general excitement around Amarna to conduct further excavations. Sayce studied the British Museum's copies and published translations of addition tablets excavated by Petrie. He confirmed "that the *fellahin* gave me correct information when they shewed me, four years ago, the place where the tablets had been discovered."[529] Probably referring to this discovery, Eugène Grébaut, the director of the Antiquities Service, wrote to Naville in 1891: "I did not realise that the antiquities derived from the *Sebeekh* actually benefit the science; they are lost at the merchants, the provenance

[526] Naville to Edwards, 13 March 1887, V.e.13, Egypt Exploration Society.
[527] Drower, *Flinders Petrie*, 74–75; Quirke, 'Interwoven Destinies', 256.
[528] Carl Bezold and E.A. Wallis Budge, *The Tell El-Amarna Tablets in the British Museum*, ed. Edward Maunde Thompson (London: Printed by Order of the Trustees, 1892), ix.
[529] Archibald Henry Sayce, 'The Cuneiform Tablets', in *Tell El-Amarna*, by W.M.Flinders Petrie (London: Methuen & Co., 1894), 34.

remains unknown."[530] *Sebakh* digging could be perceived as beneficial as long as Egyptologists could reclaim the discovery as their own through subsequent excavations.

Promoting the BSAE and the Need for Training, c. 1905

The celebratory literature on Flinders Petrie tends to treat his practices, methods, and ideologies as rather static over the course of his long career. Because of his opposition to Naville from the very start of the EEF's fieldwork in the early 1880s, it is assumed that he entered into Egypt with a very different set of principles that guided his fieldwork throughout the subsequent sixty years. The implication is that Petrie immediately triumphed as an archaeologist over his competitors, which was simply not the case. Popularisers of his work—including Petrie himself, Amelia Edwards, Hilda Petrie, and many others—made a concerted case in the media regarding the authority of first-hand fieldwork. This popularisation was carefully managed and not entirely successful at the time, even if it succeeded in the long term.

Many of the concerns that dictated Edwards and others' popularisation of Egyptian fieldwork in the 1880s continued to shape the first years of the Petries' British School of Archaeology in Egypt (BSAE). When Petrie left the EEF for the first time in 1892 (claiming it was being mismanaged by Reginald Stuart Poole) and established the Egyptian Research Account (ERA), he intended it to pay for only the training of field students, a cost of roughly £300 or £400 per trainee.[531] His own fieldwork during this freelance period was largely financed by two private benefactors, Henry Martyn Kennard, the son of a London-financier, and Manchester cotton merchant Jesse Haworth. Jesse and his wife Marianne had been drawn to Egypt since reading Edwards' travelogue and took their own Nile tour tracing her steps. Edwards encouraged their private patronage of the ERA since its inception.

As discussed in chapter 3, Petrie made his pleas to fund the training of students through the ERA on the basis of urgent preservation. His 1894 letter to the editor of *The Times* harkened back to Edwards' pleas a decade earlier. He warned the public that "the destruction of the monuments and historical record of Egypt, which is going on year by year, threatens soon to leave no history to be further recorded." The only remedy was "complete and careful excavation, in which the history and meaning of every object shall be traced and recorded as it is found." Here Petrie was starting to become more interested in (or at least feigning interest in) the field site itself. It was important that a "trained observer" find objects rather than "an Arab" because:

[530] Grébaut to Naville, 20 November 1891, III.d.43, Egypt Exploration Society.
[531] Drower, *Flinders Petrie*, 202.

> …there is generally more history involved in the position and details of a discovery than in the object found. Fossils are worth but little if their strata are unknown. More scientific material has been destroyed than preserved in many, or most, excavations—even by Europeans and Egyptologists.[532]

Petrie was actively stressing two new things: careful recording of objects in their archaeological contexts and a new type of excavator (represented by himself) who could train others to do this.

The need for establishing such a field school, it was argued, was also nationalistic pride. In similar circumstances, proponents for the establishment of the British School at Athens (BSA) complained in 1883 that France, Germany, and the United States all had state-sponsored archaeological institutes, yet the British Government and British taxpayers would not support "the study of art which is 'pagan.'" The author (likely classical scholar and politician Richard Claverhouse Jebb, the author of a similar article) cited the EEF's recent success to show that the Victorian public can "be educated to take an interest in biblical archaeology," as they could for classical history. The article concluded that "thousands of years of civilization are under the soil in the Levant, and this country should contribute to unveil all that ancient world of mighty men who came before and after Agamemnon."[533] The BSA was established in 1886 and carried out its first years through donations from private individuals and institutions. The first two students, Ernest Gardner and David G. Hogarth, both subsequently excavated in Egypt in 1895, Gardner for the ERA and Hogarth for the EEF. Renewed calls for governmental support in 1894 met with success.[534] Despite the British Occupation, though neither the EEF nor ERA received government support.

Petrie briefly returned to excavate for the EEF between 1896 to 1905, all the while keeping the ERA as a scholarship fund for student fieldwork. However, the EEF committee lacked funds to adequately support his own fieldwork and publications. He permanently departed in 1905 and, for the very first time, the Petries relied solely on the ERA to finance both his fieldwork and those of his students. It became more crucial than ever for the Petries to secure donations and market his fieldwork to the general public. In the round-up to the establishment of the BSAE in 1905, the three related emotional pleas—for preservation, training, and governmental support—remained consistent themes in Petrie's public campaigns. He complained in 1905 that "the English Government—true to its traditions—does nothing whatever for work in Egypt." Prussia, France, and Italy had sponsored expeditions to Egypt, meanwhile, "the only action of the English Government has been to place English students at a great disadvantage in Egypt." Moreover, these national expeditions had priorities other than "scientific" archaeology. The Egyptian Government

---

532 W.M.Flinders Petrie, 'The Rescue of Egyptian History', *The Times*, 16 October 1894, 6.
533 'England's Duty to Archaeology', *Saturday Review*, 5 May 1883; Richard Claverhouse Jebb, 'Plea for a British Institute at Athens', *Fortnightly Review*, May 1883.
534 George A. Macmillan, 'A Short History of the British School at Athens, 1886-1911', *Annual of the British School at Athens* 17 (1911 1910): ix–xxxviii.

"is concerned to keep its antiquities safe and to find objects for its museum." The French Government "is concerned with the desirable work of copying, reading, and publishing inscriptions." The EEF "is concerned with excavating temples and finding big monuments, and it has never supported any students." There was simply "no place where any student can get training in the very elements of archaeological research." The ERA/BSAE would fulfil this requirement—but it would "rest entirely on the public spirit of individuals, according to the usual English system."

Fortunately for Petrie, the task of publicising, fundraising, and popularising the British School's fieldwork was then left to his capable wife. Rather than announcing the formation of the British School of Archaeology in Egypt under her husband's name, she published the announcement anonymously in *The Times* and several morning papers on 4 June 1905. The amount required annually was a modest £1,000 or £1,500 because no expensive buildings were needed: "the site of excavations each year must necessarily be the place for training students." Flinders Petrie was to be director, while Hilda split the role of secretary with James Walker, one of Petrie's past students. As was typical for secretaries of archaeological funds, Hilda assumed the responsibility of fundraising, writing to friends, private donors, and media outlets, and spreading updates about her husband's work—a role she continued steadily for the remainder of both their careers.[535]

Hilda Petrie's duties were year-round. The autumn before fieldwork was spent attracting new patrons. She wrote hundreds of letters to wealthy and prominent potential backers, while Petrie gave seventeen public lectures in different cities in England and Wales.[536] She assembled an impressive forty-four-person committee—which grew to fifty by the end of the first season—of influential scholars and affluent Londoners. The list was published in their announcement and included reputable Egyptologists, colonial officials and politicians, and well-known scholars such as John Lubbock, Henry Balfour, James G. Frazer, Alfred Cort Haddon, and William Boyd Dawkins. Notably, Hilda Petrie had succeeded where Edwards had not, in securing the support of Lord Cromer as the school's main patron. This was likely a result of the *Entente Cordial* treaty signed between Britain and France a year prior, which contained a clause that the director of the Egyptian Antiquities Service would remain French, thus removing some of the national tensions Cromer was previously concerned about.[537] Relying on another of Edwards' previous tactics for promoting the EEF, Hilda Petrie announced the British School's popular mandate: to perform archaeology that focused on "the early history of Egypt, the connexions with the Semites and Israelites, and the relations of Egypt with Greece as far back as the Prehistoric ages." The committee pleaded "to all

[535] Sparks, 'Publicising Petrie'; Thornton, "'… a Certain Faculty for Extricating Cash'"", 3; Drower, *Flinders Petrie*, 248, 296.
[536] Drower, *Flinders Petrie*, 296.
[537] Reid, *Whose Pharaohs?*, 196.

who care for the past glory of Egypt, and for the sources of Western civilization, to all who realize the continuity of history, and who wish to maintain the traditions of English discovery and scholarship in the East."[538] The British School's first season would also be focused on excavating *tell* sites in the Eastern Delta, particularly a few which had already been excavated by Naville.

Publicity Campaigns and Managing Fieldwork at a Distance

Looking at Hilda Petrie's role in promoting her husbands' fieldwork, we cannot separate the practices of "excavation" from "popularisation." Once settled at Tell el-Yahudiyeh, the letters or "journals" Hilda co-authored with Flinders became part of her fundraising agenda. Hilda was in charge of dispatching them. Every few weeks, she sent a letter to London to be circulated amongst their personal network. The recipients included a mixture of family, friends, and donors to the ERA. Consistent recipients from 1905-06 included the Petries' family members, Flaxman Spurrell, an archaeologist and Flinders Petrie's long-time friend, several of Hilda Petrie's personal friends, Beatrice Orme, Hope Pinker, and Lina Eckerstein, all of whom had joined the Petries on fieldwork in recent years. Lina Eckerstein was appointed an executive member of the General committee of the BSAE. Some colleagues at the UCL Egyptology department also received letters, including Margaret Murray, James Walker, and Francis Lewellyn Griffith, as did a few previous patrons of the ERA, such as treasurer A.L. Lewis, Marianne and Jesse Haworth, and Margaret Sefton Jones. The circulated letters carried specific instructions for recipients to, for instance, "not keep journal more than one day, but forward on as soon as possible to the next person on the list."[539] Being a member of such a privileged group increased loyalty to the Petries and created incentives to further promote their fieldwork within their own social and professional circles.

Hilda also scripted letters from the field to *The Times* and several London-based Jewish periodicals. Updating readers in newspapers, particularly through publication in *The Times, Athenaeum* and *Illustrated London News* had been an increasingly popular fundraising tactic to promote archaeology to the public since the mid-nineteenth century.[540] The Petries' private correspondence letters often supplemented — or when necessary, corrected — the information presented in the media reports. Hilda reminded her readers to be careful with whom they shared news, repeating in every letter that "the information as to antiquities is private, and not intended to be used in publications."[541]

---

[538] 'The British School of Archaeology in Egypt (from a Correspondent)', *The Times*, 14 June 1905.
[539] Petrie Journal 1905-06, 12. Griffith Institute, University of Oxford.
[540] Thornton, "'… a Certain Faculty for Extricating Cash'"", 3.
[541] Petrie Journal 1906-06, 12. Griffith Institute, University of Oxford.

It was necessary to ensure that information did not fall into the wrong hands, which was always difficult to control at a distance. Petrie's distrust in this regard was forged in his second year working at the Giza pyramids, before he had joined the EEF. Samuel Birch asked Petrie to copy inscriptions at the pyramid of Pepy I in Sakkara, which had recently been excavated at the direction of Gaston Maspero. Petrie supplied Birch with plans and inscriptions from the pyramid to be published in the Society of Biblical Archaeology's proceedings. The plans were also to be announced anonymously in the *Athenaeum* as Petrie "did not wish to be named."

> The reason for privacy is that I hope to do more here next winter, and work which might easily be stopped by any ill-will…The custodians of the antiquities there have not the least idea that I went in or have any means of doing so. I was sorry not to finish all the visible inscriptions, but my trusty Arab servant considered a second day too risky.

Petrie had just copied an inscription at Sakkara when he was caught by the local *ra'is*, who had been given strict orders by Maspero "not to allow anyone to copy anything discovered in the official excavations." Petrie concluded his letter to Birch asking him not to "make known at present through whom this copy has been obtained.[542] The whole ordeal created some animosity between Birch and Maspero, who did not appreciate that Birch was sending Petrie to do his dirty work for him, without Maspero's permission.[543] It foreshadowed the subsequent tensions between French and British excavators over land claims to archaeological sites.

The Petries found themselves in a similar situation in 1906 when updating their archaeological network in Britain about Tell el-Yahudiyeh. This time, the tension was between those loyal to the EEF and the BSAE respectively. Petrie had left the EEF on rather bad terms. Edwards had been a key mediator between Petrie and Naville, but after her death, and lacking funds to support simultaneous excavations, the EEF secretaries chose to support only Naville. Petrie's mutually agreed departure put the EEF and ERA/BSAE in direct competition for public subscriptions. Just a week after Hilda Petrie's announcement of the BSAE in *The Times*, the EEF's president John Evans and Treasurer Herbert Grueber wrote to the editor angered that the article (probably deliberately) had failed to mention that Petrie had been supported by the EEF for the last nine years. Evans and Grueber reminded EEF donors that "their subscriptions may not be diverted elsewhere" and "that the fund which has already done so much in the past to make known in this country the history of ancient Egypt may receive still wider support."[544] The Petries managed to convince some EEF committee members to also support their organisation, including Sayce, Ernest Gardner, and the EEF vice-president Hilton Price, who also agreed to be ERA

[542] Petrie to Birch, 30 April 1881, 4715 and 4715b, Middle East Library, British Museum.
[543] Edwards to Poole, 22 July 1883, COR.003.a.02, Egypt Exploration Society.
[544] Sir John Evans and Herbert A. Grueber, 'The Egypt Exploration Fund', *The Times*, 17 June 1905, 4.

treasurer. Some EEF subscribers wrote to EEF secretary Emily Paterson that they could not afford to support both organisations and would henceforth choose to support the ERA.[545]

Only a few months later, field updates from the Petries' network were leaked to Francis Legge, an archaeological correspondent for the *Athenaeum,* and crucially, a close friend of Naville. These two media outlets were already established competitors in publicising archaeological fieldwork in Egypt. Legge published an update in the "Archaeological Notes" section in January claiming that Petrie was reported to be digging at Tell el-Yahudiyeh "but, so far, to have found nothing."[546] Hilda penned a rebuttal under her husband's name directly to *The Times* on March 14. She explained the principal discoveries from the season and claimed that, on the contrary, "every stated requirement of the place of Onias is fulfilled at the site." Moreover, where Edouard Naville failed to identify the actual temple, the British School had succeeded.[547] Legge struck back with a more critical assessment on April 17:

> Prof. Petrie himself does not appear to have been very successful, the site at Pithom that he had hoped for having been already assigned to M. Jean Clédat before his arrival in Egypt, and his work seems to have been entirely confined to Tell el-Yahudiyeh (the mound of the Jew), summarily excavated for the Egypt Exploration Fund by M. Edouard Naville in 1887. That this was the site of the schematic Jewish temple erected by Onias was established by M. Edouard Naville, and in his letter to *The Times* of March 14th, Prof. Petrie claims to have discovered the remains of this temple itself. As the same letter tells us that the natives have 'barely left the outline of the foundations of the temple,' this is likely to be largely a matter of faith, and one's scepticism is not lessened by the statement that the proportions of the Holy of Holies are the same as those of Solomon's Temple.[548]

A culture of scepticism is conspicuous in these updates. Readers could not simply take archaeologists at their word. Success in the field, or lack thereof, was entirely subjective.

In the next paragraph of the report, Legge compared the Petries' lacklustre season to Naville's excavations for the EEF at Deir el-Bahari, "[which] have, however, this year been very successful." Relationships fostered between newspaper editors and members of archaeological committees were crucial in promoting archaeological research.[549] The *Athenaeum* had been, alongside *The Times* and *Illustrated London News*, a primary platform through which Amelia Edwards updated the public on the archaeology of the EEF. The favourable light in which Naville is depicted may have been a result of Legge's friendship with him. It is also possible that the editor of the periodical may have felt an obligation to continue promoting the EEF's fieldwork.

---

[545] Drower, *Flinders Petrie*, 296.
[546] 'Archaeological Notes', *The Athenaeum*, 13 January 1906, 57.
[547] 'The Temple of Onias (From a Correspondent)', *The Times*, 14 March 1906.
[548] 'Archaeological Notes', *The Athenaeum*, 7 April 1906, 428.
[549] Thornton, "'… a Certain Faculty for Extricating Cash'", 4.

The Petries were keen to correct what they saw as the mischaracterisations of their success at Tell el-Yahudiyeh. They announced two sensational discoveries from the field season. The first related to the prior speculations by Lewis and Naville, among others, that Tell el-Yahudiyeh was the site of a Jewish temple modelled after Solomon's temple in Jerusalem. Naville had identified Tell el-Yahudiyeh with Onias's temple on the basis of Jewish tombstones excavated from a nearby Hellenistic cemetery. However, Naville did not locate the ruins of the physical temple.[550] The Petries claimed to be the first to find the temple and thus declared that Tell el-Yahudiyeh was "A New Jerusalem in Egypt."

The second major discovery was that Tell el-Yahudiyeh was also the mysterious Hyksos capital city of Avaris.[551] In the process of clearing some graves from the nearby cemetery, the labourers identified the square outline of a massive fortification wall. Despite not digging within the actual walls, Petrie suggested the structure dated to the Hyksos period (c.1650-1550 BCE). Little was known about the Hyksos. The term Hyksos came, via Josephus, from the ancient Egyptian epithet *heqa khasut*, "rulers of foreign countries." Nineteenth-century scholars preferred Josephus's definition "shepherd kings."[552] Petrie considered the Hyksos dynasties "one of the great periods of obscurity in Egyptian history" and was eager to shed some light on it.[553] He reasoned the military-like encampment was Avaris because it was "entirely un-Egyptian." Moreover, because of its location close to the Eastern desert, Petrie likened it to the "large and strong wall" described by Josephus.[554] Josephus wrote that after the inhabitants of Avaris were expelled from Egypt, they settled in the land of Judea and settled the city of Jerusalem. The expulsion of the Hyksos from Egypt was therefore, from the classical period on, associated with the Biblical exodus.[555] Both new announcements about Tell el-Yahudiyeh — that is was a "new Jerusalem" and that it was Avaris — were intended to pique biblical and classical interests.

Petrie's lecture tour for the season started in April just after leaving Cairo for Naples, where the couple parted. He gave lectures to English expatriates on the 19th in San Remo (60 people), on the 20th in Bordighera (90 people), on the 21st in Mentone (85 people), and on the 23rd in Nice (120 people). Donations were requested and received from each audience for future work of the British School. He spent July giving over fifty lectures in Britain and a few more in the autumn.[556]

---

[550] Naville and Griffith, *The City of Onias*.
[551] Petrie and Duncan, *Hyksos and Israelite Cities*, 2; 'The Temple of Onias (From a Correspondent)'; 'British School of Archaeology in Egypt: Hyksos Camp Discovered', *The Times*, 5 June 1906.
[552] The once-popular term "shepherd kings" originated with Josephus who quoted Manetho, see Flavius Josephus, *The Life. Against Apion.*, trans. Henry St. John Thackeray (Cambridge, MA: Harvard University Press, 1926), 195.
[553] William Matthew Flinders. Petrie, *A History of Egypt. Volume 1: From the Earliest Times to the XVIth Dynasty.*, vol. 1 (London, England: Methuen & Co., 1894), 200.
[554] Petrie and Duncan, *Hyksos and Israelite Cities*, 8–10.
[555] Josephus, *The Life. Against Apion.*, 199.
[556] Petrie Pocket Diary, April 1906, 115.9.26, 43-46, 73, Petrie Museum of Egyptian Archaeology, UCL.

Some of his locations were chosen strategically to encourage publicity where the Petries already had an established base of followers. He gave an annual museum lectures in Manchester because it was the home of the Haworths, his most dedicated patrons. Hilda called these events their "usual *fantasia* in Manchester."[557] Since the 1890s, the University of Manchester had received a small but steady stream of antiquities from Petrie's excavations because of the Haworths' sponsorship. On October 1st, his audience in Manchester listened attentively for an hour and a half as Petrie spoke about his team's success at Tell el-Yahudiyeh. At the end of his lecture he appealed for public support, pledging to continue providing more objects for the museum's growing collection. They set up the Manchester Egyptian Society with Jesse Haworth as president and Boyd Dawkins Vice-president. Two years later the association hosted Margaret Murray's unwrapping of the "Two Brothers," a spectacle that provided great publicity for the BSAE's 1906-07 excavations at Rifa. Maspero allowed the whole tomb assemblage to leave Egypt and Petrie presented it to the Manchester Museum.[558]

Just as Hilda Petrie increasingly took over the co-management of labour in the field, she shared a number of other crucial tasks, including organising her husband's lecture tours and promoting them in local newspapers, proof-reading her husband's books and seeing them through to publication, writing committee reports, cataloguing finds, and preparing for the summer exhibition season. All this while raising their children John and Ann (born in 1907 and 1909). Familial obligations kept her in Britain for some seasons, although she used these periods to also grow their lists of subscribers. Like Edwards, Hilda Petrie lectured widely about BSAE fieldwork, especially to women's groups. She also relied on her personal network and encouraged women as local honorary secretaries for the School. Margaret Sefton Jones established a new organisation called the Egypt Research Students Association in 1906, along with Hope Pinker and Caroline Herford. The purpose was to generate interest in the BSAE's fieldwork, and it was particularly influential in growing subscriptions numbers. The association was "supplied with travelling series of small antiquities sent on loan to the various branches." Each branch was managed by one, or more women, who would also host regular lecture series. By 1914, there were ten branches in London, Burnemouth, Edinburgh, Farnham, Glasgow, Gloucester, Hastings, Reigate, Ross-on-Wye, and Tintagel. Another of Hilda's friends Winifred Crompton became honorary secretary of the Manchester Egyptian Association, and Margaret Murray followed in organising and managing the Egyptian collection in Manchester. [559] Sefton-Jones reported that "in many of the centres, the

[557] Drower, *Flinders Petrie*, 324.
[558] Kathleen L. Sheppard, 'Between Spectacle and Science: Margaret Murray and the Tomb of the Two Brothers', *Science in Context* 25, no. 4 (2012): 525–49.
[559] Drower, *Flinders Petrie*, 211, 260, 307–8, 317, 323.

members are real students and require very little help in providing material for their meetings."[560] The first presidencies of both the EEF and the BSAE were awarded to wealthy male donors as a sign of gratitude. But like Amelia Edward's role as the EEF's honorary secretary, it was women who devised, promoted, and administered these organisations.

After the excavation season came the "exhibition season," Petrie's annual tradition of setting up a temporary display of artefacts for the public. He had started this practice with the EEF in the mid-1880s. Originally hosted at Oxford Mansion, Egyptian Piccadilly Hall, the Royal Archaeological Institute, and eventually at UCL, his annual exhibitions were important marketing tools. They were attended by members of the middle and working classes, all of whom were encouraged to provide small donations to support fieldwork. They were also accessible spaces "where prospective archaeologists could enquire about or secure a position on the next season's dig."[561] They were always promoted in the media, and by the early twentieth century, were so well-known that *Punch* editors referred to the annual displays as the "Flinderies."[562] It is also notable that Petrie often displayed familiar, domestic items, in small rooms where visitors could observe, touch, and smell them.

Petrie organised the first exhibition for the BSAE with John Garrow Duncan, and assisted by a new student, Ernest Mackay. The 1906 exhibit ran from July 2 to 28. It opened daily from 10am to 5pm and, on two evenings, remained open late "to meet the convenience of those who cannot visit the rooms during business hours" and to "be appreciated by all who value the intellectual and artistic results of British Occupation."[563] The first page of the short exhibition catalogue pleaded their case: "As this is the organization for assisting British students in Egypt, it is hoped that all who value our archaeological reputation and the progress of discovery, will give the support which is essential where no Government assistance is granted" (**Figure 4.6**). It was followed by a removable subscription page.[564]

The catalogue led audiences through two rooms. The first was devoted to the small *tells* surveyed by Duncan, Smith, and Stoney, and the second to Tell el-Yahudiyeh and Tell er-Retaba. The tables and display cases in the exhibition were categorized by sites and historical periods, referencing physical objects in the room. Small objects from the season's fieldwork were put on

[560] Hilda Petrie, 'The Egyptian Research Students' Association', ed. W.M.Flinders Petrie, *Ancient Egypt* 2 (1914): 94; Hilda Petrie, 'The Egyptian Research Students' Association', ed. W.M.Flinders Petrie, *Ancient Egypt* 1 (1914): 47.
[561] Amara Thornton, 'Exhibition Season: Annual Archaeological Exhibitions in London, 1880-1930s', *Bulletin of the History of Archaeology* 25, no. 2 (2015): 2–3.
[562] 'At the Flinderies', *Punch*, 20 July 1904, 46; Thornton, *Archaeologists in Print*, 7.
[563] 'Archaeology in Egypt', *The Times*, 4 July 1906, 14.
[564] W. M. Flinders Petrie and Rev. J. Garrow Duncan, 'Catalogue of Egyptian Antiquities, Found in the Hyksos Camp, The City of Raamses, The Cemetary of Goshen, The Town and Temple of Onias, and Other Sites', 1906, 3, Petrie Museum of Egyptian Archaeology.

display, and afterwards were used for classroom training in the Egyptology department.[565] The exhibit was crucial for framing the season as a success, even Petrie was less than thrilled with the results. The Petries prepared their audience in *The Times*:

> In the display of material objects the present exhibition perhaps hardly equal to some of its predecessors. But in the historical results which have been obtained it has never been surpassed, hardly ever equalled, so illuminating is the view presented of two periods, separated from each other by more than 20 centuries, in the history of that most beautiful land.[566]

These *tells* could not be fully appreciated through their antiquities; the architectural landscape had to be reconstructed through the archaeological imagination. The exhibit was therefore supplemented by a number of visual proxies, including photographs by Flinders Petrie, and drawings and maps made by Hilda Petrie and Butler-Stoney.

Two additional objects were designed specifically for display purposes: three-dimensional models of Onias's temple and the Hyksos fortification wall (**Figure 4.7**). These models were apparently a highlight of the exhibition. Petrie used them as visual aids during tours, which he gave twice a day in the morning and afternoon, to explain the most important discoveries of the season. One attendee of that year reported the models were "exceptionally interesting."[567] The Petries had used models only once before, exhibiting a model of the temple of Serabit al Khadim in July 1905. The tradition was not entirely new in archaeology. Pitt-Rivers constructed scale models of classical sites as well.[568] The General apparently told Petrie he should consider doing the same. Petrie replied in an 1894 letter: "I'm much obliged for your suggestion about models; and as I am giving clear out an entire fort of the XVIIIth Dynasty we might well have a model of that to enlighten the public, somewhat like the model of Pompeii at Naples."[569] At least on this occasion, Pitt-Rivers seems to have directly influenced Petrie's decision to use models, although he adopted the practice himself only in 1905, five years after the General's death. The models and the pottery collected from Tell el-Yahudiyeh were also displayed at the Royal Society's Conversazione on the June 26, an occasion that the Petries attended every year since his election as a fellow in 1902.

Through their private letters and publicly campaigns, the Petries moreover continued to highlight their fieldwork as a preservation measure. Like Edwards, they criticised the *sebakhin* at Tell el-Yahudiyeh. Hilda described how, upon arrival, the mound was in disarray with gaping holes

---

565 Sheppard, 'Margaret Alice Murray and Archaeological Training in the Classroom: Preparing "Petrie's Pups"'.
566 'Archaeology in Egypt'.
567 'Our London Correspondence', *The Manchester Guardian*, 2 July 1906.
568 Christopher Evans, 'Modelling Monuments and Excavations', in *Models: The Third Dimension of Science*, ed. Soraya de Chadarevian and Nick Hopwood (Stanford: Stanford University Press, 2004), 109–37; Christopher Evans, 'Model Excavations: "Performance" and Three-Dimensional Display of Knowledge', in *Archives, Ancestors, Practices: Archaeology in the Light of Its History*, ed. S. Schlanger and J. Nordbladh (Oxford: Berghahn Books, 2008), 147–61.
569 Letter cited in Stevenson, '"We Seem to Be Working in the Same Line"', 9.

that bore evidence to the work of local farmers who had been digging up the site for fertilizer. She complained in letters home and in *The Times* that the architecture had "all been dug away" before their arrival, leaving piles of rubbish scattered everywhere. All you could see were "tumbled heaps of potsherds between little pits and watery hollows."[570] Their excavation report *Hyksos and Israelite Cities* began similarly.

> On first viewing Tell el-Yahudiyeh there seemed hardly any possibility of recovering details of the ancient structures of the place. The accumulations of brick ruins of the ancient town…had almost entirely disappeared… Every fragment and product of the ancient site is being removed, so that before long no trace will be left of the city.[571]

Apparently, the Petries and their team arrived just in time. Any later and the site would have been destroyed entirely. Though at Tell er-Retaba, *sebakh* were cited as an explanation for lack of success: "As in other ancient sites, so here, the natives remove large quantities of earth to lay upon the field. But instead of this destructive custom exposing the earlier remains, as in the case of other sites, it makes the lower levels here even more inaccessible."[572]

Duncan similarly emphasised how difficult it was to excavate Delta *tells*. At Saft el-Heneh, the cemetery "had been laid under cultivation for the growth of *henneh*, a considerable produce of these village; and in some parts the sand had been so completely carried away by *sebakhin*." In this instance, he actually benefited from the practice:

> It would appear therefore, that by the merest accident, or through the entire lack of enterprise and observation on the part of the natives living around, this *gezireh* has been left to us to be a source of information and historical data, as well as many objects of value.[573]

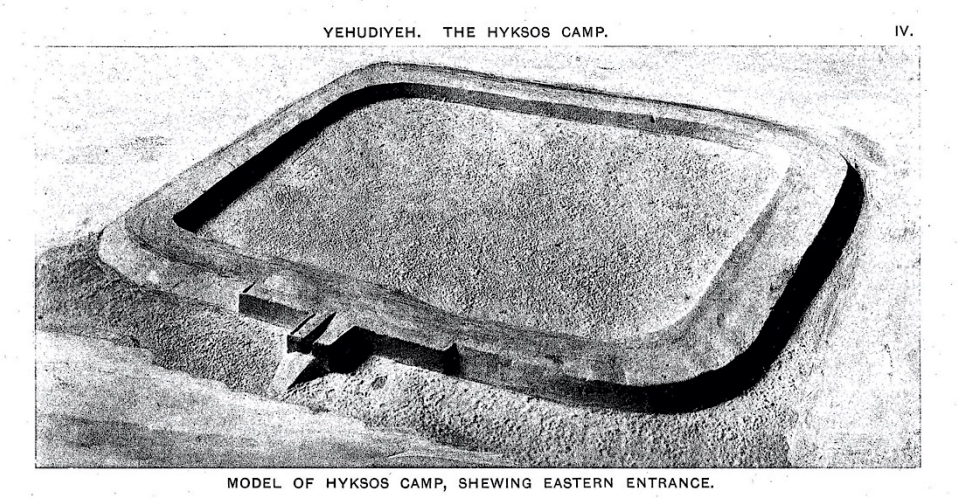
However, on the west side of the same *gezireh* at Suwa, he and his students were already too late. The area had "been so denuded by *sebakh* diggers, that most of the graves here were utterly destroyed, fragments of bones being visible all over the surface." He explained further:

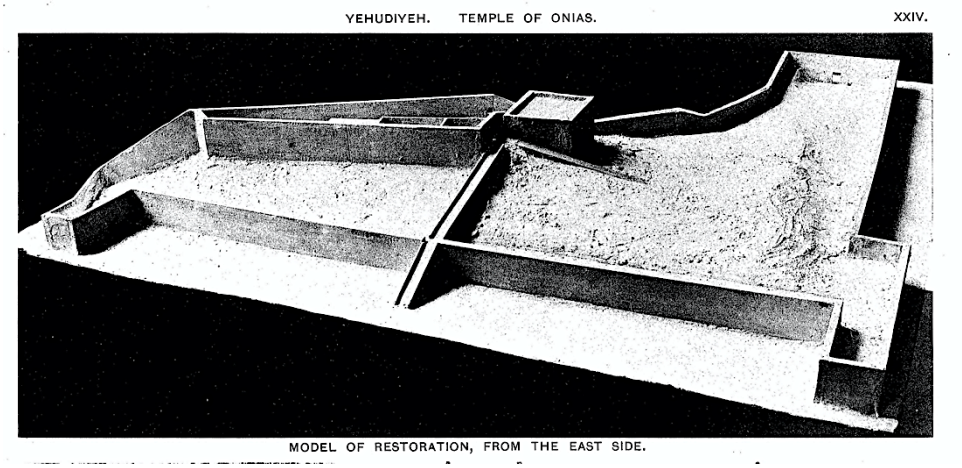
[570] Petrie Journal, 17 December 1905, 3, 8, Petrie Museum of Egyptian Archaeology.
[571] Petrie and Duncan, *Hyksos and Israelite Cities*, 3.
[572] Ibid., 28.
[573] Ibid., 35.

Image removed for copyright reasons. Copyright holder is the Petrie Museum of Egyptian Archaeology, UCL.

Figure 4.6. Catalogue of the BSAE's exhibition of 1906 at University College London. Petrie Museum of Egyptian Archaeology.

Figure 4.7. Models of Tell el-Yahudiyeh, shown during the BSAE's 1906 summer exhibition. From W.M.Flinders Petrie, *Hyksos and Israelite Cities* (London: Office of School of Archaeology, University College, 1906), Pl.IV and Pl.XXIV.





> When taking in a piece of *gebel* for cultivation, the natives begin by removing two or three feet of the surface sand, with a kind of flat-bottomed drag, drawn by oxen, and they pile sand in heaps, using it up gradually for various purposes. In this way, they sometimes begin cultivating at a level only a few inches above graves, that probably contain valuable information, which is thus lost to the world, at least for the present, if not ever. It was very annoying, in passing through the *henneh* fields, actually to see the rings of pot-mouths or pot-bottoms on the surface of the path, and yet be unable to unearth them.[574]

When Duncan was not complaining about *sebakhin*, he was complaining that cultivation was taking over the pharaonic landscape. In both cases, he was questioning the different values given to ancient remains by colonisers and colonised. Framing fieldwork as a struggle invited readers to become virtual witnesses to the excavation, inviting them to experience what the Petries and their field team had experienced. The strategy also highlighted the utility and urgency of archaeology as a preservation practice. Framing fieldwork this way also prepared their readers to accept that only Flinders Petrie, with all his first-hand experience, and field excavators trained in his method, could make sense of distant sites in such disarray.

Petrie the Expert Excavator, Populariser, and Heroic Adventurer

Petrie's agenda to establish disciplinary authority in the early twentieth century relied, not only on marketing fieldwork, but also on his ability to write for multiple audiences. This was a period in which professionalising scientists were also popularisers, writing for both specialist and non-specialist audiences.[575] The general audiences who were the target of the Petries' publicity campaigns were inundated, as they had been since the early 1880s, by themes meant to appeal to them: national pride, preservation, and classical and biblical history. Petrie promoted the latter in his *Researches in Sinai* (1904), which discussed the Exodus route at length, in *Egypt and Israel* (1911), and he continued to receive support from the Society for Promoting Christian Knowledge and Religious Tract Society.[576] The excavations at Tell el-Yahudiyeh and Tell el-Retaba were also a symptom of this continued tactic. William Copley Winslow, who promoted the BSAE's work in the States, celebrated the BSAE's biblical and classical focus. Petrie successfully confirmed that the layout of the temple of Onias "exactly correspond[s] with all the statements of Josephus and reconcile[s] points in which discrepancies had been supposed to exist in his descriptions."[577]

---

574 Ibid., 47.
575 Bowler, *Science for All*, 1–8.
576 Gange, *Dialogues with the Dead*, 281–84.
577 William Copley Winslow, 'Petrie's Work in the Delta', *American Antiquarian and Oriental Journal* 28, no. 5 (October 1906): 304.

At the same time, Petrie was promoting a vision for archaeology as a legitimate scientific enterprise. His patrons were not made of clergy, as was the case for the EEF, but experienced archaeologists, anthropologists, geologists, and philologists. Around the time he left the EEF and established the British School, Petrie attended a conference in Oxford on the scientific method. He proclaimed the superiority of "material facts" and condemned too much reliance on pre-existing ancient texts, claiming the use of material remains to confirm or illustrate what had been recorded in antiquity was their least useful application. Petrie justified his illiteracy in hieroglyphs because "the great amount of history shown in the material remains [are] often much wider and fuller than any that is recovered from inscriptions."[578] His emphasis on material evidence, without the aid of textual support, promoted his recent work on predynastic pottery, where he used "sequences" to establish a relative chronology.[579] The fact that his following season of fieldwork at Tell el-Yahudiyeh did exactly the opposite—used archaeology to confirm classical and biblical texts—points to his efforts to target multiple audiences.

Petrie was immersed in a wider culture of professionalising scientists attempting to do both, which invited some antagonism. Petrie's lecture was turned into a chapter on "Archaeological Evidence" in T.B. Strong's edited volume *Lectures on the Method of Science* (1906). The lectures, which also covered anthropology, history, astronomy, philosophy, comparative anatomy, and physiology, were published "in the hope that their high interest, both in themselves and in their mutual connexion, would justify their presentation to a wider audience"[580] The volume's publication for a general readership was criticized by one reviewer in *Nature*:

> From the nature of the case, the arguments are such as to appeal to *persons of general culture* rather than to *specialists*. If Oxford were as energetic in the prosecution of scientific research as she is in popularising knowledge by means of extension lectures, men of science would probably be disposed to think her activities better and more suitably directed.[581]

The same criticism would not be mounted against his Huxley memorial lecture at the Anthropological Institute in November 1906, a dense and lengthy piece on the topic of "Migrations." Petrie was prone to doing most writing fairly quickly. But his diary indicates he dedicated half of August for preparation and nearly all of September for writing.[582] This lecture was clearly important for him in shaping his scientific-public persona.

---

578 Petrie, 'Archaeological Evidence', 225–26.
579 W. M. Flinders Petrie, 'Sequences in Prehistoric Remains', *Journal of the Anthropological Institute of Great Britain and Ireland* 29 (1899): 295–301.
580 T.B. Strong, *Lectures on the Method of Science* (Oxford: Clarendon Press, 1906), iii.
581 'Lectures on the Method of Science', *Nature* 74, no. 1911 (14 June 1906): 149.
582 Petrie Pocket Diary, September to October 1906, 80-89, Petrie Museum of Archaeology.

Amongst his more impactful publications of this period, Petrie's excavations manual *Methods and Aims in Archaeology* (1904) stands out. The handbook was a crucial element in his wider agenda to fulfill the multiple roles of practitioner, populariser, professor, and trainer of students in the field. As Gange notes, the handbook was largely a blueprint for how archaeology should *ideally* be practiced, even if it did not always reflect what was happening on the ground.[583] Nonetheless it was crucial for rallying specialists and young students around a set of shared principles and practices. Petrie outlined the ideal education and experience for a field archaeologist, effective ways to manage workmen, procedures for recording, copying, preserving and storing artefacts, the process of publishing, and his views on archaeological evidence and ethics. He used his handbook to endorse a new type of archaeology that insisted on first-hand field observations and, especially, a new type of excavator, for which he was the key representative. The handbook was moreover strategic in making archaeology appear to be "systematic" – a word he used repeatedly throughout. What exactly did this mean?

His chapter on the topic started by telling readers, "A science can hardly be said to exist until it has developed a system of work, and its possibilities of value for teaching purposes depend entirely on the organisation of its methods." He described the process by which other sciences had become more "systematic":

> Geology was a chaos before the generalisation of the successive order of the strata, and the method of determination of a stratum by its fossils, gave the subject a working system. Astronomy was a maze until the Newtonian laws produced methods of analysis. Chemistry could not be said to have any methods until the use of the balance and the theory of atomic combination made possible the last century of development. So far, archaeology cannot be said to have systematised any working methods except those of artistic comparison and of epigraphy, and those can only cover a small part of the space and time which need to be studied.[584]

"Systematising" archaeology meant keeping a thorough and complete record, disciplining bodies and minds, creating a corpus of archaeological objects for study, and the "arrangement of material in its order of development by statistical methods and comparison." He confidently wrote that pottery analysis and sequences "may prove to be, for archaeology, what the balance theory has been for chemistry—the necessary foundation for systematic knowledge and exact theory."

Petrie provided a second concern of systematic archaeology, which was the need to reform the treatment of objects in museums: "the most serious bar to the progress of archaeology." He was inserting himself into growing debates about museum storage in Britain. The problem was that large national museums could not accommodate enough natural or artificial specimens: "We are

[583] Gange, *Dialogues with the Dead*, 285.
[584] Petrie, *Methods & Aims*, 122–30.

driven, then, to the conclusion that the progress of archaeology and the preservation of the past…is essentially a question of free space." His solution for both archaeological and ethnological collections was the creation of a National Repository, funded by the British Museum through their annual allowance of £10,000. He presented his scheme at the Liverpool meeting of the British Association for the Advancement of Science in 1896.[585] His proposal was received particularly well by anthropologist Alfred Cort Haddon who regarded it as a way to satisfy both specialists and non-specialist audiences.

> Speaking broadly, museums may be divided into two main classes, 1) those that are designed to interest and instruct the *general public*, and 2) those that are intended for *specialists*. Difficulties and misunderstandings arise when these two objects are not kept apart.[586]

Haddon agreed with Petrie that "the specialist needs all the specimens he can get in a building where they can be safely housed and readily accessible; he asks for facilities, not for architecture." Petrie's plan for storage at a reduced cost should be adopted by all countries, "and the sooner this is done the better will it be for the science."

Petrie established his expertise as both an excavator and populariser through his publications, which generally targeted different audiences. This ability to do both became an essential aspect of Egyptological authority. In his site reports and history books, Petrie wrote densely for specialists. A favourable review of Petrie's six-volume *A History of Egypt* (1897-1905) by Egyptologist James Baikie suggested it was not "likely to appeal to the general reader." It did not have a flowing narrative and was "essentially a book for the serious student of Egypt."[587] Conversely, his "charming little book *Ten Years Digging in Egypt"* (1893) took "a wider public into his confidence." His handbook was once again appealed "to a wider public."[588]

Petrie intended *Methods and Aims* to target specialists and non-specialists alike. "Though this volume is a book of reference for those engaged in actual work," his preface stated, "it will also serve to give the public a view of the way in which this work is done."[589] Many of the reviews applauded the handbook's dual appeal. French palaeontologist Marcellin Boule's glowing review in *L'Anthropologique* praised Petrie's ability to "give the public an idea" about how archaeology is practiced while simultaneously showing that "archaeological research [is] to be conducted with science, dedication and spirit." Archaeology was not for "*les amateurs d'objets d'art*" or "*biblelots*."

---

585 W.M.Flinders Petrie, 'An Ethnological Storehouse', *Report of the Sixty-Sixth Meeting of the British Association for the Advancement of Science*, 1896, 935–38.
586 Alfred C. Haddon, 'The Popularisation of Ethnological Museums', *Nature* 70 (1904): 7–8.
587 Rev. James Baikie, 'The Latest Discoveries in Egypt', *The Expository Times* 17, no. 2 (1 November 1905): 89–92.
588 'Digging and Twigging', *The Speaker*, 17 September 1904, 565–66.
589 Petrie, *Methods & Aims*, viii.

Petrie was an exemplary *"explorateur égyptologue,"* for an "archaeologist must search himself and not fear, as they say, to get his hands dirty."[590]

Petrie's authority as both an expert excavator and populariser did not prevail without competition. His book was heavily criticised by classicists and museum curators. Archaeologist Salomon Reinach thought Petrie was completely ignoring his work and that of other French classisits: "Clearly, one of the principles of archaeological ethics is *suum cuique*" (to each his own).[591]A similar review in *Nature* by Classicist Henry Beauchamp Walters began, "If any man living is qualified to write a book on the subject of excavating it is Prof. Petrie," yet Petrie was "too prone to disregard the work of other archaeologists." Petrie's claim to be the first archaeologist to suggest the need for a "corpus" of archaeological artefacts completely ignored French and German classicists, whose typological work and museum catalogues were "if not *corpora*…still a step in that direction." However, the biggest problem with *Methods and Aims* was that Petrie dismissed his museum counterparts altogether. Walters worked in the Antiquities Department at the British Museum and, unsurprisingly, rejected Petrie's criticism of "stay-at-home archaeologists" like himself.

> We think Prof. Petrie too much inclined to regard excavation (even with all its concomitant labours) as in itself comprising archaeology. This cannot be. The excavator supplies the materials, and it rests with him to supply them in a scientific and workmanlike manner; but the years of study which they often demand must be the lot of the student, who, we can assure our author, would often be only too grateful if he had the chance of combining both functions."[592]

The subtle dig at Petrie's lack of formal education made a larger point. For Walters, the museum scholar was just as authoritative, if not more than, the field excavator. He argued their specialisms were complementary. But Walters was still operating through a division of labour that had characterised long-distance archaeology: between an excavator who gathers materials and a true scholar, a "stay-at-home" archaeologist, who was uniquely qualified to interpret them.

This dichotomy was nowhere more present than in the comparisons of Petrie and Walter's colleague at the British Museum, the Keeper of Egyptian and Assyrian Antiquities, E.A.Wallis Budge. Budge was perhaps the only other Egyptologist of the moment who could rival Petrie as a populariser, in both his exhibitions and publications. His expertise, like his predecessor Birch, was drawn from philology and the dedicated study of textual sources, but also his ability to interpret those sources to non-specialists. He generally only visited Egypt to gather antiquities for the museum's collections and did not take part in any excavations (at least not in Petrie's sense). His

---

590 Marcellin Boule, *L'Anthropologie* 15 (1904): 381–82.
591 Salomon Reinach, 'Methods and Aims of Archaeology', *Revue Archéologuque* 3 (1904): 158–59.
592 Henry Beauchamp Walters, 'The Excavator's Vade Mecum', *Nature* 70 (12 May 1904): 31–32.

book *The Mummy* (1893) was "in the hands of every tourist" on the Nile. As a popular writer, Budge had "made what used to be a sort of secret knowledge, a sort of occult science, into one of the easiest branches of learning anyone, especially an Englishman, can study." [593] His public persona was established through his popular publications. *Punch* produced a poem to honour Budge, for "what [was] probably the longest biography in the new *Who's Who*" by the *Daily Express*. *Punch*'s 1911 supplement to the British Museum likewise assessed Budge as "the author of more books than any of his colleagues, which is saying a good deal."[594]

Direct comparisons of their writings were made in the *Quarterly Review*, reviewing Petrie's handbook and his six volume *A History of Egypt* (1897-1903) against Budge's eight volume *A History of Egypt* (1902). The reviewer noted Petrie and Budge's books served very different purposes, and neither were perfect. The utility of Petrie's history books was "beyond dispute," but his illustrations "were not well reproduced." In contrast, Budge's book was "more attractive-looking for the general reader or amateur Egyptologist," but full of errors. They each appealed to different audiences.

> The style is more popular and less pregnant than that of the closely packed volumes by Petrie. The one is a work *for students* by a very original investigator, who is sometimes led astray by the very abundance of his ideas, and by the lack of trustworthy translations; the other is intended *for popular use*, though written by an expert in many Oriental tongues, who can therefore pronounce with authority on points which Egyptologists, as a rule, have to leave alone as outside their sphere of knowledge. Unfortunately, it contained blunders of the most obvious description…The work is not the result of painstaking original thought and research.[595]

The reviewer noted at least one thing in common: "the main requirement of Egyptology, whether archaeology or literary, seems now more than ever to be accuracy of observation and of interpretation, which also means distinguishing clearly between fact and conjecture."[596] However, neither Petrie nor Budge's books were ideal histories of Egypt because neither author possessed everything required to write one. "The archaeologist may err radically for want of adequate knowledge of the language; the philologist through having no grasp of the archaeology, and all alike, however brilliant or sound they may be through lack of general preparation." The review suggested that "probably no one at the present time combines all these qualifications."

Petrie, however, was determined to prove otherwise. Another crucial aspect of *Methods and Aims* was the construction of the ideal male archaeologist. Edwards was among the first in 1891 to describe what it took to be an "all-round archaeologist."

---

[593] 'The Mummy', *Nature* 49 (30 November 1893): 97–98.
[594] 'Mr. Punch's Supplement VII. The British Museum', *Punch*, 31 May 1911, 412; 'Lines to Professor Budge', *Punch*, 21 December 1910, 446.
[595] 'Recent Lights on Ancient Egypt', *Quarterly Review* 200 (July 1904): 57–58.
[596] Ibid., 75.

> Few, very few, probably of those who 'sit at home at case' have any clear notion of the qualifications which go to make an explorer of the right sort—still less of the kind of life he is wont to lead when engaged in the work of exploration….he lives in a tent, and spends his time 'discovering things.' Now what can be more romantic than life in a tent? And what can possibly be more charming than 'discovering things?'[597]

It is almost certain she had Petrie, not Naville, in mind when she described the requirements as excellent judgement, patience, vigilance, "diplomatic tact, a strong will and equable temper, and a good constitution." He needed the "firm but good-humoured authority" to control Egyptian labourers, some fluency in colloquial Arabic, and knowledge of ancient languages." One year later, Edwards ensured that the Professorship of Egyptian Archaeology in her name went to Petrie and not Budge. Petrie's inaugural lecture envisioned a new role for himself as an archaeological rival to philological, classically trained "specialists" who had dominated Egyptology.

> It has been the glory of England that the free worker had frequently rivalled the specialist. Murchison, Spottiswoode, Huggins, De La Rue, Evans, Lubbock, Sir William Grove were household names, and yet all this work was done outside of the course of life which most men would consider full enough without a scientific reputation. Might we not see arise a Murchison or an Evans of Egyptology?[598]

The British School and *Methods and Aims* were strategic in promoting Petrie as an "exemplary" archaeologist. He was self-trained, methodical, and had practical experience in the field that any ambitious reader could emulate.[599] While Petrie was straddling two separate audiences at times, there was a direct correlation between his roles as a populariser and expert. He was demonstrating his personal authority to popular audiences, and in the process, demonstrating the authority of archaeological fieldwork.

Historians have noted that field scientists in this period bolstered their scientific personas by presenting themselves as heroic adventurers. This was particularly true in the masculinisation of mountain exploration. Bruce Hevly shows that heroism in Victorian glacier physics, for example, promoted a gendered "rhetoric of adventure as an important element in the culture of field science, one claiming reliable perception on the basis of authentic, rigorous, manly experience."[600] One of these heroic adventurers, John Tyndall, was also a prime example of what it meant to be both an expert and populariser. Achieving authority required the demonstration of skill, rigour, bravery,

---

[597] Edwards, *Pharaohs, Fellahs, and Explorers*, 21–24.
[598] 'Professor Flinders Petrie On Egyptology', *The Times*, 16 January 1893; Janssen, *The First Hundred Years*, 98–102.
[599] On the "exemplary scientist" see Lightman, 'Popularizers, Participation and the Transformation of Nineteenth-Century Publishing'.
[600] Hevly, 'The Heroic Science of Glacier Motion', 67–68.

endurance, and "commitment to the field."[601] Henrika Kuklick showed the same to be true for late nineteenth- and early twentieth-century anthropologists, arguing that the field became a space for building moral character: "the view that personal growth (of an implicitly masculine sort) was effected through pilgrimages to unfamiliar places, where the European traveller would endure physical discomfort and (genuine or imagined) danger. The characteristics of fieldwork that had once made it dirty work now made it a purifying ordeal."[602] Thus, the tropes of heroic fieldwork, enduring discomfort, demonstrating self-sacrifice, implied strength of character, and had a direct bearing on one's ability to become a reliable-witness.

Petrie too associated the authority of first-hand fieldwork with discipline, rigour, and of course roughing it. He routinely emphasized the self-imposed discomfort, even danger, of fieldwork. He always chose to live in less-than ideal circumstances and made his field team oblige. While measuring the Pyramids of Giza, he proudly lived in a rock-tomb for two winters, among rats and village dogs. And field life was carried out on a frugal budget. It was reported by one field member that in Petrie's camps "one was expected to eat food out of half-empty tins left over from the previous day."[603] The struggle of fieldwork was also highlighted by the harsh weather conditions. When he worked at Tanis in 1884, Petrie proudly described the violent rainfall, dust storms, forty-degree temperatures, and living in a temporary wooden shelter after his tent was destroyed.

It is most interesting that Hilda Petrie joined her husband in adopting these masculine tropes of heroic adventure. One of Hilda's few publications in her own name from this period was presented to a female readership in *The Queen, The Ladies Newspaper*, and offered a liberating view of women's exploration (**Figure 4.8**). In the summer of 1905, Flinders Petrie was working at a temple site in the Sinai desert, having left Hilda to record inscriptions at Sakkara because he feared the desert was not safe. She nonetheless set out with her friend Linda Eckerstein to join him, along with five Bedouin and camels and one Qufti. Camping essentials were loaded on the camels and the ladies each carried a "revolver and money, compass and notebook, whip and water flask" so that they felt "ready to go anywhere and face anything." The six-day journey was difficult—

[601] Jeremiah Rankin and Ruth Barton, 'Tyndall, Lewes and the Popular Representations of Scientific Authority in Victorian Britain', in *The Age of Scientific Naturalism*, ed. Bernard Lightman and Michael S. Reidy (London: Pickering & Chatto, 2014), 51–70.
[602] Kuklick, 'Personal Equations', 12–14.
[603] Drower, *Flinders Petrie*, 219.

Figure 4.8. Photographs published in Hilda Petrie's article "On Camel-back in Sinai." The left image is subtitled "Part of our caravan on the march," showing Hilda Petrie and Linda Eckerstein on their camels. The right image is subtitled "The Bedawyn of the desert in their camp." Hilda Petrie, "On Camel-back in Sinai," *The Queen, The Lady's Newspaper* 118 no. 3074 (25 November 1905): 943.

something Hilda took pride in. She warned readers that "travelling in the less-trodden East is not as easy as it sounds." She only recommended the journey to those "accustomed to colloquial Arabic and the ordering of men, who can put up with sleeping on the ground, and weather an occasional hail shower or sand-storm."[604] When appropriate, Hilda appealed to the heroic masculine virtues of discomfort, discipline, and bravery that her husband promoted as necessary for archaeological fieldwork.

At Tell el-Yahudiyeh, Hilda described to their correspondence network how the mound was an inhospitable place to live. Nights were cold and windy, mornings were cold and damp, mosquitos were incessant, and sleep was impossible. The whole site was also under a water level so extreme that the team was forced to move elsewhere for a month before they could return to continue work.[605] By emphasizing the harsh conditions of excavating in Egypt, Flinders Petrie in particular fashioned an image as disciplined, hardworking, morally and physically capable. Hilda Petrie embraced the gendered tropes of heroic fieldwork so that she too could be taken seriously. It was no longer enough to simply "be there" to observe work first-hand. Archaeological authority had to be demonstrated along these terms. Excavators showed that through the rigours fieldwork, their moral strength of character was superior to their colleagues who stayed in Britain.

Conclusion

As Victorian Egyptologists fashioned their discipline into a colonial field science, they were among the first archaeologists to make extensive use of a non-specialist marketplace. For the first time in

[604] Hilda Petrie, 'On Camel-Back in Sinai', *The Queen, The Lady's Newspaper* 118, no. 3074 (25 November 1905): 943.
[605] Petrie Journal 1905-06, 6. Griffith Institute, University of Oxford.

the early 1880s, authors, correspondents, and editors published on ancient Egypt increasingly for a reading public. They wrote popular books and articles with elaborate visuals of fieldwork, announced the latest updates on excavations, and corresponded on matters of funding, preservation, and biblical historicity in weekly columns. Amelia Edwards, Hilda Petrie, and many other female ambassadors embarked on lecture tours and established local Egyptological societies to promote Egyptological fieldwork in regional communities, and to establish their own expertise. Annual exhibitions worked in tandem with the appeal for public inscriptions to provide new forms of accessibility to archaeological fieldwork. Egyptologists strategically sought disciplinary legitimisation by inviting British audiences to participate in the production of field-based knowledge.

Many women in particular gained entry into fieldwork through popularising practices. My focus on Amelia Edwards and Hilda Petrie, perhaps two of the better-known women in late nineteenth- and early twentieth-century Egyptology, is deliberate. As other historians have noted, both women were typical of a wider trend in Egyptology whereby women were lecturers, writers, promoters, ambassadors, collectors, and fundraisers of archaeological fieldwork. However, both had unique agency in that they capitalised on certain resources. Edwards was known to Victorian audiences as a popular writer well before her trip up the Nile. Hilda Petrie gained entry into the discipline through her collaborative marriage with a partner who was himself unique in his encouragement of women in fieldwork. Married and single women were confronted with different dilemmas. Single women had less access into fieldwork, but when they did participate, they could act fairly independently. Married women had more opportunities in excavation work but frequently operated "behind the scenes." Kate Hill argued that much of Hilda Petrie's work:

> in Egypt and Britain, was about working with the objects, 'museumifying them,' and introducing them into popular and scientific audiences…She had a close relationship with the excavated artefacts, formed by washing, drawing, sorting, cataloguing and interpreting them to a British audience, *rather than by digging them up*."[606]

As we saw in chapter 3, however, male excavators did not "dig things up" any more than their female counterparts. Hill makes the additional argument that for women who could not participate in "Egyptian fieldwork" museums offered new spaces to gain authority into the discipline, highlighting the roles of women in the EEF and BSAE who promoted, fundraised, collected, donated, and managed artefacts in Britain.[607] This assessment of female involvement in Egyptology

[606] Hill, *Women and Museums*, 165.
[607] Ibid., 163–66; for a similar argument, see Stevenson, *Scattered Finds,* 55–62.

is largely accurate; however, Hill's perspective cements an unnecessary dichotomy between the field and the museum as spaces with, respectively, male/scientific and female/domestic connotations.

Here I have instead focused on how archaeologists and popularisers managed the *field* more broadly, as an entity that was, in some sense, more mobile than antiquities. Due to several new antiquities laws introduced during this period, many objects excavated by the British did not leave Egypt. This is why Petrie focused on pottery and other small artefacts, because the French did not protest their removal. His emphasis on training, observation, and careful recording ensured that many aspects of the pharaonic landscape were transmitted as proxies on paper and communicated to wider audiences in ways that allowed excavators, popularisers, and audiences alike to imaginatively reconstruct the Egyptian field site at a distance. The popularisation of Egyptology was therefore inseparable from excavations in Egypt; these practices worked in tandem. From this perspective, women's labours, both in Egypt and Britain, can be considered "fieldwork" in their own right—the *work* discussed in this chapter being the promotion of excavations as a means to manage knowledge at a distance and demonstrate archaeological authority.

This period saw crucial changes in the public's perception of Egyptological authority. There were many disagreements over what archaeology was, how it should be practiced, and its value. There were moreover opposing visions of expertise and Egyptologists competed as popularisers among British audiences to prove their superiority. There were many consistencies throughout this period: marketing campaigns for the EEF and BSAE both sought public subscriptions to fund fieldwork, and both appealed through themes relating to national pride, the Bible and classical literature, and preservation. The critique of *sebakhin* was a crucial aspect of how Egyptologists demonstrated their utility, as well as the difficulties of excavation. One change by the end of this period was the emergence of the heroic excavator as a distinct figure, who could simultaneously occupy the roles of scientific practitioner in the field and populariser in Britain. As criticisms of *Methods and Aims* illuminate, simply being "in the field" no longer gave Petrie enough leverage to compete with the scholarly, knowledgeable, "stay-at-home" archaeologists in museums. The field excavator (whether male or female) had to demonstrate nominally masculine characteristics of bravery, discomfort, endurance, and rigour. All of this bolstered their moral character, making them reliable "expert-witnesses" in fieldwork. The invention of heroic fieldwork, and of the field site as a scientific place of authority, was thus a long, fraught process that began much earlier in the nineteenth century and took shape in both Egypt and Britain.

Conclusion

This thesis has examined the emergence of British archaeological fieldwork in semi-colonial Egypt from a new perspective. It has set out to illuminate how and why Egyptology was branded a field science during this transitionary period. Bringing together literature from histories of science, histories of archaeology, and postcolonial studies, I have drawn on extensive archival research to trace the origins of a key concept developed in archaeology during the second half of the nineteenth century. I have taken up the field as a category that was invented during this period, but one that also had very real consequences on the ground. Meanwhile "fieldwork" has been framed as a broad range of practices that were not limited to field sites in Egypt, but also refers to the mobilisation of the field in Britain. Through this lens, fieldwork includes digging, supervising, observing, record-keeping, sketching, writing, communicating, visualising, debating, fundraising, lecturing, publishing, reading, and more. My aim is for this to be a geography of archaeological knowledge that broadens our current scope of Egyptological practices through considering the different types of people who participated in the circulation of archaeological knowledge, before Egyptology was an independent discipline. This account is therefore a discussion about the politics of the field and of Egyptology, and the shifting meanings of these terms, in the making of a colonial science. Equally it is about discipline formation in the imperial age and the agency of those who laboured in Egyptian fieldwork.

Throughout I have asked: to what degree was being in the "field" necessary for doing Egyptology? The answer has required a critical analysis of what comprised Egyptology and the field in different periods, and who had the expertise to decide such matters. In the first half of this thesis, I discussed two typical examples of what I term "long-distance archaeology." Many British practitioners of ancient Egypt established vast correspondence networks and relied on archaeological informants in Egypt to extract information throughout field records, which they would analyse and scrutinise in the metropole. In the second half of this thesis, I elaborated on what I term the "shift to the field," an emerging point of view that an archaeologist needed to be personally present to conduct their own fieldwork. No longer could theorists rely on informants or collectors to communicate information back to them. In Egyptology, the field was utilised to fashion a heroic perception of archaeology as a dirty, laborious, systematic, and masculine pursuit, as well as a professional activity, rather than an entrepreneurial or leisurely undertaking by travellers abroad. More than any technical developments of the era, the shift to the field had lasting implications for the perceived credibility of excavations in Egypt and the legitimisation of Egyptological expertise. While the late nineteenth century is normally presented as a revolutionary

moment in the development of British archaeological fieldwork, I argue that earlier concerns about trust, distance, and credible witnessing continued to shape field practices in profound ways.

The principal agendas of long-distance archaeology and first-hand fieldwork were largely the same. The goal was for British practitioners to appropriate the ancient Egyptian past and, as they competed amongst each other about the best way of doing this, they sought to establish Egyptological authority. In the process, colonial archaeology was used to assert knowledge and power over the Egyptian landscape and its modern inhabitants. Even before the archaeological field site began to be discussed in these terms, it was an "imagined geography" of the Orientalist worldview. The "assignment of place," as Said and Gregory have argued, was an essential practice in the construction of (archaeological) identities.[608] Fieldwork therefore formed part of the practices of representation, modernity, discipline, and colonial politics discussed by Timothy Mitchell.[609] The field was simultaneously a powerful ideology within Egyptology and an effective tool for claiming Egyptian territory. Ancient Egypt was not studied in some imaginative realm, nor did material remains exist in isolation from modern Egypt and Egyptians. The boundaries of field had to be demarcated through text and image. Long-distance fieldwork was one way in which Britain claimed ancient and modern Egypt before direct colonial rule. The archaeological field site became an important space for maintaining imperial rule and for disciplinary legitimation.

My reasons for focusing on British colonial Egyptology in particular are twofold. First, the British Occupation in 1882 provides a convenient landmark to compare archaeological practices before and during direct colonial rule. Second, British archaeologists such as Petrie made the repeated, explicit, claims that they were making Egyptology "scientific" through systematic fieldwork. In the future, this project could be expanded in scope to consider what long-distance archaeology looked like for French, German, Italian, and Egyptian Egyptologies. As has been discussed here only briefly, French and Prussian archaeologists held the monopoly over archaeological excavations before the 1880s. However, many long-distance Egyptologists nonetheless resided in the Continent and relied on informants abroad. How did the relationship been expertise and locality change while French and German practitioners were developing different notions of the "science" of Egyptology?

An extended version of this project could also elaborate on the roles of go-between fieldworkers such as Hekekyan. Hekekyan was unusual in the sheer amount of field records he produced and sent to Horner, and his engineering background, which was only commented on briefly, was fundamental to his management of archaeological labour, training of field students,

608 Said, *Orientalism*, 49–73; Said, *Culture and Imperialism*, 3–14; Gregory, 'Imaginative Geographies'.
609 Mitchell, *Colonising Egypt*; Timothy Mitchell, *Rule of Experts: Egypt, Techno-Politics, Modernity* (Berkeley and London: University of California Press, 2002).

sketching, and record-keeping. However, Hekekyan also shares striking parallels with some others working in the same period, notably Assyriologist Hormuzd Rassam, who was also trained in Britain, and worked closely with British archaeologist Austen Henry Layard at Nimrud and Nineveh. Hekekyan furthermore set a precedent for what would become a common practice amongst Egyptian-born practitioners in the late nineteenth century, such as Ahmed Kamal, who some consider the first Egyptian archaeologist. In Kamal's positions at the Egyptian Museum and the French-controlled Antiquities Service, he was often sent to investigate, supervise, and report on archaeological work taking place throughout the country. These cases provide additional avenues to consider the porous boundaries between informing and expert witnessing, and how indigenous Egyptologists carved their own authoritative niche in archaeological fieldwork.

Major developments in Egyptian Egyptology came during the interwar period as Egypt sought increasing independence from colonial rule. One aspect of the growing nationalist movement was a reclamation of ancient Egypt through extending Egyptian history into the pre-Islamic past. Several changes came after 1922, including new antiquities policies, programs were established explicitly to train Egyptian Egyptologists, and there were many efforts to increase the Egyptian public's interest in Egyptology, through art and education.[610] However, an equally significant change came after the 1952 revolution, known as the "free officer's coup," which ended colonial rule. It also meant that the Egyptian Department of Antiquities (formerly the Antiquities Service), which had been under French control since its establishment in 1858, was taken over fully by the Egyptian government, ensuring that Egyptians now managed archaeological permits and antiquities administration. As William Carruthers shows, the issues of credibility and trust were again prioritised as foreign archaeologists were required to develop new working relationships with Egyptian colleagues in the Department of Antiquities, particularly adopting the practices of Egyptian civility by the new *Effendiyya* class.[611] A century after Hekekyan's supervision of fieldwork at Mit Rahina, new excavations there were once again co-managed by local and foreign archaeologists. Politically fraught negotiations over authority in this new "decolonised" context had a direct bearing on the archaeological status of Mit Rahina, and the buildings which housed members of the excavations: "the dig house, like the field it was situated in, was a symbolic and politically liminal space."[612] These later developments were building on existing colonial-era structures and relationships.

---

[610] Reid, 'Indigenous Egyptology'; Reid, *Whose Pharaohs?*; Reid, *Contesting Antiquity in Egypt: Archaeologies, Museums, and the Struggle for Identities from World War I o Nasser.*

[611] *Effendiyya* were a group of Egyptians who were educated in the country's new university system and were leaders in the anti-colonial, nationalist and modernisation projects of the twentieth century.

[612] Carruthers, 'Credibility, Civility, and the Archaeological Dig House in Mid-1950's Egypt', 11; William Carruthers, 'Visualizing a Monumental Past: Archaeology, Nasser's Egypt, and the Early Cold War', *History of Science* 55, no. 3 (2017): 272–301.

This project could also benefit by extending the periodisation to WWI. The war seemingly put a halt to large-scale British archaeological fieldwork in the Middle East (or at least its popularisation). However, the British Foreign Office relied on informants abroad who, under the pretext of archaeological work, were surveying and gathering intelligence. Such include the well-known examples of British archaeologists David Hogarth, T.E.Lawrence, Leonard Wooley, and Gertrude Bell, as well as the 'Kaiser spy' Baron Max von Oppenheim.[613] These and other figures can be analysed within the frameworks of long-distance knowledge-management and authoritative witnessing that I have discussed throughout this thesis.

These examples show that long-distance practices did not suddenly come to a halt at the end of the nineteenth century. The revolutionary treatment of *fin de siècle* male colonial field archaeologists, such as Flinders Petrie, Howard Carter, George Reisner, and James Henry Breasted, just to name a few, have obscured the long-distance practices that preceded and shaped them. Field archaeologists deliberately distinguished themselves from the previous era of archaeology. Francis Llewellyn Griffith claimed in his 1901 inaugural lecture at Oxford that "Egypt is still one of the happiest hunting grounds for the pyramid theorist, the universal chronologist, the seeker after occult symbolism," adding "to none of these can the Egyptologist give any help." For him, the new Egyptology was "a prolific branch of the great science of anthropology, probably destined to illuminate the general history of mankind more searchingly and powerfully than the anthropology of a hundred other countries."[614] His attempt to classify earlier investigations as something *other* than Egyptology was deliberate. This misleading assumption that fieldwork, and thus Egyptology, changed abruptly at the turn of the twentieth century has been carried into the twenty-first century.

I want to conclude by making three additional points about this project and its applicability. The first concerns the legacies of long-distance practices in the discipline of archaeology. In the interwar public imagination, field Egyptology was still considered just one way to study the subject. The spectacle of the discovery of Tutankhamun's tomb in 1922 is perhaps the best-know example of heroic field-based Egyptology. Yet in its wake, Danish author Julius Moritzen's popular little blue book *The Egypt of Yesterday* (1923) suggested the museum offered an alternative, possibly superior, space for pursuing Egyptology:

---

[613] Juliette Desplat has written extensively about the corresponding archival documents in the National Archives, see for example Juliette Desplat, 'Digging for King and Country', *National Archives Blog*, 18 November 2014, https://blog.nationalarchives.gov.uk/digging-king-country/; Juliette Desplat, 'Spy or Scholar? Meet Dr Curt Prüfer', *National Archives Blog*, 24 September 2018, https://blog.nationalarchives.gov.uk/spy-or-scholar-meet-dr-curt-prufer/.
[614] Francis Llewellyn Griffith, *The Study of Egyptology: Inaugural Lecture Delivered in the Ashmolean Museum on May 8, 1901* (Oxford: Horace Hart, 1901), 3 & 9.

> While those who can afford it may find it to their advantage to study Egyptian archaeology in its native lair, still, the facilities furnished for that purpose by an institution like the Metropolitan Museum of Fine Arts in New York in many ways permit of a much more leisurable investigation of Egypt's past treasures as these are gradually brought from their centuries-old hiding places.[615]

Moritzen's opinion reflected the trend towards public accessibility in Egyptology that began in the late nineteenth century. Even as Egyptology and archaeology grew in academia and fractured into several subdisciplines, the boundaries between specialist and non-specialist remained blurred. This is increasingly the case in the twenty-first century as "armchair tourism" is touted for audiences wishing to explore archaeological sites from afar.[616] Egyptologists have also enlisted public help through crowd-sourced digital archaeology, such as the Ancient Lives Project, a collaboration between the University of Oxford, the Egypt Exploration Society, and the Citizen Science Alliance, which today are "dedicated to allowing everyone to make a meaningful contributions to scientific research." Already by 2016, the project had recruited two hundred and fifty thousand online volunteers to review digital scans of papyri fragments from Oxyrhynchus in Upper Egypt.[617] With anyone able to virtually contribute to Egyptological knowledge nowadays, some Egyptologists have felt renewed pressure to police the boundaries of the academic side of their discipline, and their expertise, in ways not all too dissimilar from the nineteenth century.

Questions about the necessity of fieldwork did not immediately disappear in branches of academic archaeology. This remained the case even on the cusp of the processual archaeology or "New Archaeology" movement of the late 1950s and early 1860s, which aimed to apply a positivist scientific method to archaeological theory.[618] In 1950, archaeologist Roger Summers continued to advocate for the separation of excavation and analysis, claiming that comparison of artefacts was best performed outside the field.

> Some people do this work in the field, but I am convinced that this is wrong; typological analysis demands concentration and a good light as well as clean specimens, and it is only in exceptional circumstances that these conditions can be obtained in the field.[619]

---

615 Julius Moritzen, *The Egypt of Yesterday: A History of Exploring and Excavation*, Pocket Series 469 (Girard, Kansas: Jaldeman-Julius Company, 1923), 16.
616 Julian Heath, *Archaeology Hotspot Egypt : Unearthing the Past for Armchair Archaeologists*, Archaeology Hotspots (Lanham: Rowman & Littlefield, 2015).
617 'ANCIENT LIVES Project', n.d., http://www.papyrology.ox.ac.uk/Ancient_Lives/; Emily Sharpe, 'Armchair Archaeologists Reveal Details of Life in Ancient Egypt', *The Art Newspaper*, 29 February 2016, http://theartnewspaper.com/news/armchair-archaeologists-reveal-details-of-life-in-ancient-egypt/.
618 For example, Trigger, *A History of Archaeological Thought*, 386–483.
619 Roger Summers, 'Armchair Archaeology', *The South African Archaeological Bulletin* 5, no. 19 (1950): 102.

Archaeology's "counterpart" to fieldwork continues to be the analysis of artefacts, field notes, and writing-up that takes place when the excavation season is over.[620] The focus on procuring objects through fieldwork for the sake of publication has led to recent ethical questions about artefact storage.[621] Fieldwork is only one element of archaeology and, increasingly, considered non-essential for many. Today many archaeological specialties, such as ceramic petrography, osteology, or conservation efforts, can operate exclusively from a university or museum laboratory. Egyptologists who specialize in the history, religion, and languages of ancient Egypt rarely participate in any archaeological projects, but utilize the data collected by their colleagues. The results of Geographic Information Systems (GIS) and remote sensing projects can be analysed by specialists anywhere. Non-intrusive methods of archaeological conservation, such as high-resolution scans, are facilitating knowledge to be produced outside of the field.[622] Digital archaeology has become prevalent in all arenas of archaeology, allowing practitioners to work long distances from the field site.

My second point is about the relationship between heroic archaeology and invisible labour in fieldwork. These topics have both been treated extensively in the history of science. They have independently received some attention in histories of Egyptology but are rarely considered together. My focus on the popularization of the field shows these phenomena to be twin aspects of the same problem. It is important to highlight how publicity became a mechanism of erasure because these practices have led to persistent and pernicious narratives in the popular imagination of archaeology. The first popular histories of the discipline included C.W.Ceram's *Gods, Graves, and Scholars* (1952), John A. Wilson's *Signs and Wonders Upon Pharaoh* (1964), and J.D.Wortham's *British Egyptology, 1549-1906* (1971). While these celebratory accounts no longer play a significant role in current academic discourse, they need to be considered seriously. They were widely read, presented Egyptology as apolitical, and made implicit arguments about who was doing "important" work.

Consider, as an example of a characteristic description of fieldwork which appeared in a 1961 pamphlet published by the Science Service, a program established in collaboration with the American Association for the Advancement of Science, the National Academy of Sciences, and the National Research Council, to popularise science. This volume on archaeology was written by historian, journalist, and archaeological correspondent for the London *Evening News* Felix Barker.

---

620 Lucas, *Critical Approaches to Fieldwork*, 12.
621 For a discussion of some current debates, see Mirjam Brusius and Kavita Singh, 'Introduction', in *Museum Storage and Meaning: Tales from the Crypt*, ed. Mirjam Brusius and Kavita Singh (London and New York: Routledge, 2018).
622 For instance, see "The Theban Necropolis Preservation Initiative" by the Factum Foundation (among many of their projects), http://www.factumfoundation.org/ind/46/the-theban-necropolis-preservation-initiative

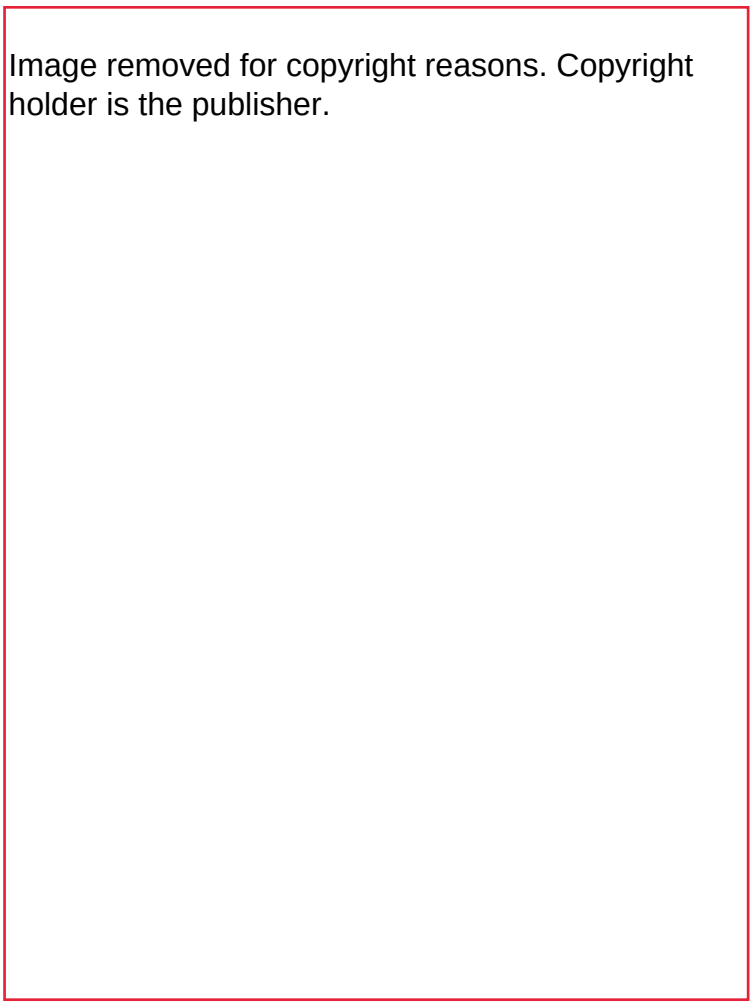


Figure 5.1. Unknown fieldworkers on an archaeological dig in Egypt. From Felix Barker, *Archaeology Old World B.C.*, Prepared with the Cooperation of Science Service (Garden City, N.Y.: Nelson Doubleday, Inc., 1961), opposite 5.

> In the sun-baked desert, many miles by camel or Jeep from the nearest village, a sudden shout breaks the silence. It brings a man out of the shade of an expedition hut. Pulling on his sun helmet he hurries across the sand to the place where a gang of dark-skinned natives are digging. An excited foreman points. The man goes down on his knees and begins to scoop gently in the earth with his hands. An assistant joins him, and like a nurse assisting a surgeon, hands him a trowel, penknife, and soft brush…Who is the man in this desolate spot in the desert, and what has he discovered? He is not one man but several. He is Sir Leonard Woolley at the ancient city of Carchemish. He is Carl Blegen of the University of Cincinnati at Pylos in southern Greece. He is the French archaeologist Claude Schaeffer at Ugarit in Syria. He is Sir Mortimer Wheeler at Harappa in the valley of the Indus. During the last seventy years these and many other archaeologists have reshaped our knowledge of the ancient world. With their spades they have discovered the foundations of civilization.[623]

[623] Felix Barker, *Archaeology Old World B.C.*, Prepared with the Cooperation of Science Service (Garden City, N.Y.: Nelson Doubleday, Inc., 1961), 5.

However, "with their spades" is by all accounts a mischaracterisation of what exactly these archaeologists were doing on site. Directly beside this romantic description of fieldwork at mid-century is a photograph of an excavation in progress somewhere in Egypt, without reference or explanation (**Figure 5.1**). A small sphinx is shown half-uncovered in the sand as an Egyptian boy sits beside it and four anonymous labourers dig with shovels. None of the "archaeologists" who, according to Barker's account, were single-handedly responsible for this discovery, are represented. This narrative of romantic Egyptology is still dominant in countless popular books, documentaries, movies, museum exhibitions, and of course newspaper articles, where themes of "discovery" and "rediscovery" are persistent.

Divisions of "manual" and "intellectual" labour have a long history in scientific practice. In Egyptology, such divisions of labour were essential to knowledge-making, but have also been used to exclude Egyptian labourers from contributing to the aspects of the work that received recognition, namely writing and publishing. However, as I have tried to show, these divisions were deliberately misleading. Petrie carefully executed a strategy to promote himself as doing "first-hand" fieldwork. Yet, much like the other famous archaeologists mentioned above, most of his time on site was spent outside of the trenches, managing and supervising fieldwork at a short distance. He generally only picked up his spade to "dig" when something had been found by someone else. Archaeological "discoveries" require so many people—they are products of previous scholars who have suggested that spot was worth excavating; they require preconceived hypotheses about what might be found there; they require large groups of labourers to lay out trenches, test pits, dig deeply and carefully, record details along the way, know what to look for, and when to stop digging. Only once these steps have taken does that heroic archaeologist take a spade in their hand. They then have to study this object and publicise it and let others known why it is significant. Archaeological fieldwork always has been, and continues to be, a collective effort. British and Egyptian practitioners alike contributed to the production of archaeological knowledge.

My final point concerns why Egyptology is significant for the history of science. For years, histories of Egyptology, written by Egyptologists, have presented archaeology as somehow independent from the imperial and scientific projects of the nineteenth century. It is more surprising to find that Egyptology has been overlooked in the history of science, with the notable exceptions of the Napoleonic expedition, Victorian pyramidologies, and mid-century comparative ethnologies. My project builds on recent efforts by historians of archaeology such as Mirjam Brusius, William Carruthers, and Stephane Van Damme to show that there is no legitimate reason to separate the history of "artefacts" from the history of "science." Neither Egyptology nor archaeology were distinct disciplines in this period, so people from a plethora of backgrounds in the natural and human sciences approached the topic. The history of archaeological fieldwork is a

way of addressing such anachronisms. Throughout this thesis, I have addressed several issues that remain critical in the history of science, including science and empire, fieldwork, the circulation of knowledge, go-betweens, invisible labour, trust relationships, and the popularisation of science. These were critical aspects of Egyptology's formation during the nineteenth century. The history of archaeology offers a distinctively useful way to understand discipline formation, empire-building, and non-Western contributions to scientific knowledge. It can also meaningfully inform current discussions within the history of science, and the humanities more broadly, about antiquities repatriation and the decolonisation of museums and university curricula.

Bibliography

Primary Manuscript Sources

British Library: Hekekyan MSS
British Museum, Central Archives: Report respecting offers for purchase, 10 June 1871
British Museum, Department of Ancient Egypt and Sudan:
    Hekekyan Maps
    Acquisitions Registry 27 April 1861 and 19 June 1871
British Museum, Middle East Library: Department of Oriental Antiquities Correspondence
Cambridge University Library: Bonomi Correspondence
Egypt Exploration Society, Lucy Gura Archives: EEF Correspondence
National Library of Scotland: Horner MSS
Royal Institute of British Architects: Lewis MSS
University College London, Petrie Museum of Egyptian Archaeology:
    Petrie Field Notebooks 104-106
    Petrie Pocket Diary, 1905-06
    Exhibition Catalogue, 1906
    Misc. Notes, Drawings, Photographs, Correspondence
University College London, Special Collections: Lewis MSS
University of Oxford, Ashmolean Museum: Chester MSS
University of Oxford, Griffith Institute:
    Bonomi Sketches
    Petrie Journal, 1905-06
    Griffith Notebook
University of Oxford, Sackler Library: Chester's copy of Murrays Handbook for Egypt
Royal Observatory, Edinburgh: Piazzi Smyth MSS

Primary Periodical and Newspaper Articles

'A Great Egyptologist. Tribute to Sir Flinders Petrie.' *The Times*, 8 July 1925.
'A Lecturing Tourist'. *Moonshine*, 9 November 1889.
'Amelia Blandford Edwards,' *Saturday Review*, 23 April 1892, 473-474.
'Ancient Egypt'. *Harvard Crimson*. 12 October 1887.
'Answers to Correspondents,' *Girl's Own Paper*, 22 October 1892, 64.
'Antiquities Discovered at Naukratis by the Egypt Exploration Fund'. *Illustrated London News*, 21 November 1885.
'Archaeological Notes'. *Athenaeum*, 13 January 1906.
'Archaeological Notes'. *Athenaeum*, 7 April 1906.
'Archaeology in Egypt'. *The Times*, 4 July 1906.
'At the Flinderies'. *Punch*, 20 July 1904, 46.
Bach, C.H., et al. 'Ancient Egypt: Sir Flinders Petrie's Work'. *The Times*, 27 May 1931.
Baikie, Rev. James. 'Latest Discoveries in Egypt,' *The Expository Times* 17 no. 2 (1 November 1905), 89-92.
Beauchamp Walters, Henry. 'The Excavator's Vade Mecum'. *Nature* 70 (12 May 1904): 31–32.
'British School of Archaeology in Egypt: Hyksos Camp Discovered'. *The Times*. 5 June 1906.
'Colonial and Foreign Notes'. *Englishwoman's Review*, 15 January 1890, 43.
[Conder, Francis.] 'Brugsch's Egypt under the Pharaohs'. *Edinburgh Review* 150, no. 307 (July 1879): 77–111.

'Current News about Women'. *Women's Penny Paper*, 7 September 1889, 2.
'Digging and Twigging,' *The Speaker*, 17 September 1904, 565-66.
Edwards, Amelia. 'Bubastis: An Historical Study: Prefatory Note'. *Century Illustrated Magazine*, January 1890.
[———]. 'The Egypt Exploration Fund: The City of Onia and "The Mound of the Jews"'. *The Times*, 20 April 1887.
———. 'The Egypt of the Past'. *Academy*, 19 November 1881, 375-76.
[———]. 'Egyptian Antiquities'. *The Times*, 30 March 1882
———. 'Egyptian Chronology'. *Knowledge* 2, no. 46 (12 September 1882): 267.
———. 'English Exploration in Egypt'. *Illustrated London News*. 17 September 1887.
———. 'Excavations of the Great Temple of Luxor, Upper Egypt'. *Illustrated London News*. 18 July 1885.
———. 'Future Explorations in Egypt'. *Academy*, 8 November 1879, 338–39.
———. 'The Golden Ornaments of Helen of Troy'. *The Ladies Treasury: A Household Magazine*, 1 April 1877, 219–23.
———. 'Lying in State in Cairo (with Sixteen Illustration)'. *Harper's Monthly Magazine, European Ed.* LXV (November 1882): 185–204.
———. 'M. Naville's Visit to the Ruins of Tanis (Zoan)'. *The Academy*, 1 July 1882.
———. 'Notes and Art in Archaeology'. *Academy*, 9 June 1881, 38.
———. 'Was Ramses II. The Pharaoh of the Oppression?' *Knowledge* 3, no. 64 (19 January 1883): 36–38.
———. 'Was Ramses II. The Pharaoh of the Oppression? VIII. Conditions of Place and Date'. *Knowledge* 2, no. 45 (5 September 1882): 244.
———. 'The Seat of War in Egypt'. *Knowledge* 2, no. 45 (5 September 1882): 244–45.
———. 'The Story of Tanis'. *Harper's Monthly Magazine, European Ed.* XII (November 1886): 710–38.
'Egypt and the Israelites'. *Edinburgh Evening News*. 11 April 1896.
'Egypt in Bloomsbury'. *Saturday Review*, 14 June 1879.
Emery, W.B. 'The Founder of Egyptian Archaeology: Genius of Flinders Petrie'. *The Times*, 8 June 1953.
'England's Duty to Archaeology'. *Saturday Review*, 5 May 1883.
'English Exploration in Egypt'. *Illustrated London News*. 7 July 1883.
'English News'. *Woman's Herald*, 23 April 1892, 9.
Evans, Sir John, and Herbert A. Grueber. 'The Egypt Exploration Fund'. *The Times*. 17 June 1905.
[Forbes, James D.] 'Lyell on the Antiquity of Man'. *Edinburgh Review* 118 (1863): 254–302.
Griffith, F.Ll. *Academy*, 24 September 1892.
Haddon, Alfred Cort. 'The Popularisation of Ethnological Museums'. *Nature* 70 (1904): 7–8.
Hincks, Dr. Rev. Edward. 'Bunsen's Egypt'. *Dublin University Magazine* 54 (July 1859): 20–32.
'Israel in Egypt'. *Illustrated London News*. 25 January 1868.
'Israel in Egypt: Professor Flinders Petrie's Explorations at Thebes'. *Illustrated London News*. 25 July 1896.
Jebb, Richard Claverhouse. 'Plea for a British Institute at Athens'. *Fortnightly Review*, May 1883.
Kenrick, John. 'The Chevalier Bunsen on the History of Egypt'. *Prospective Review* 2, no. V (31 January 1846): 1–32.
'Lectures on the Method of Science'. *Nature* 74, no. 1911 (14 June 1906): 149.
'Lines to Professor Budge'. *Punch*, 21 December 1910, 446.
'M. De Morgan's Discoveries at Dahshûr'. *Illustrated London News*. 7 March 1896.
'Methods of Exploration'. *The Observer*, 5 March 1905.
'Minor Notices'. *Saturday Review*, 13 January 1877, 59.
'Miss Amelia B. Edwards, Authoress and Egyptologist'. *Woman's Herald*, 28 May 1892, 7.
'Miss Amelia B. Edwards' Lecture Tour in the U.S.A.' *Englishwoman's Review*, 15 May 1890, 214.

'Mr. Punch's Supplement VII. The British Museum'. *Punch*, 31 May 1911, 412.
Naville, Edouard. 'Exploration in Egypt'. *Academy*, 13 December 1879.
———. 'Future Excavations in Egypt'. *Morning Post*, 9 December 1879, 3.
'Notes on Art and Archaeology,' *Academy*, 9 June 1881, 38.
'Notes and News'. *Academy*, 6 August 1881.
'Obituary for Sir Frederick A. Eaton'. *The Times*. 12 September 1913.
'On the Look-Out from the Pyramids of Egypt'. *Illustrated London News*. 26 August 1882.
'Our London Correspondence'. *Manchester Guardian*. 2 July 1906.
'Our Sisters across the Seas'. *Women's Penny Paper*, 4 January 1890, 128.
'Our Special Artist in Egypt: The Pyramids during an Inundation of the Nile'. *Illustrated London News*. 3 June 1882.
'The Panopticon, in Leicester Square, *Illustrated London News*, 18 March 1854, 235.
Petrie, Hilda. 'On Camel-Back in Sinai'. *The Queen, The Lady's Newspaper* 118, no. 3074 (25 November 1905): 943.
Petrie, W.M.Flinders. 'Archaeology in the Past Century'. *Scientific American*, no. 1308 (26 January 1901): 20960–61.
———. 'Recent Years of Egyptian Exploration'. *Appleton's Popular Science Monthly*, April 1900.
———. 'The Rescue of Egyptian History'. *The Times*, 16 October 1894, 6.
[Phillips, John]. 'Antiquity of Man,' *Quarterly Review* 114 (1863): 368-417.
Poole, Reginald Stuart. 'The Egypt Exploration Fund'. *The Times*, 26 February 1884.
'Politics, Sociology, Voyages, and Travels'. *Westminster Review* 51, no. 2 (April 1877): 545–46.
Pool, Reginald Stuart. 'The Egypt Exploration Fund'. *The Times*, 26 February 1884.
Poynter, Edward J., and Archibald Henry Sayce. 'The Preservation of Ancient Monuments of Egypt'. *The Times*, 23 September 1890, 5.
'Professor Flinders Petrie on Egyptology,' *The Times*, 16 January 1893, 8
'Professor Petrie on Egyptology'. *The Times*. 9 April 1896.
'Puzzles,' *Routledge's Every Boy's Annual*, n.d. (1870s)
'Recent Lights on Ancient Egypt'. *Quarterly Review* 200 (July 1904): 48–75.
'Recent Spade Work in the Nile Delta'. *Zion's Herald*, 2 November 1887.
'Record of Events'. *Englishwoman's Review*, 15 December 1887.
'Review: The Transactions of the Society of Biblical Archaeology (Vol.vii, Part 2)'. *Academy*, 9 July 1881.
'Science and Art Gossip'. *Knowledge* 2, no. 41 (11 August 1882): 187.
Scott-Moncrieff, C.C. 'M. Maspero's Excavations in Egypt'. *The Times*, 24 July 1884.
———. 'M. Maspero's Work in Egypt'. *The Times*, 23 February 1884.
Sharpe, Samuel. 'Jewish Fragments'. *Athenaeum*, 14 February 1874.
'Sketches in Egypt: Thebes'. *Illustrated London News*. 21 July 1883.
[Smith, Philip.] 'Brugsch's History of Egypt - Hieroglyphic and Cuneiform Interpretation'. *Quarterly Review* 147, no. 294 (April 1879): 430–67.
[Smith, Sir William.] 'Bunsen's Egypt and the Chronology of the Bible'. *Quarterly Review* 105, no. 210 (April 1859): 382–421.
'Societies: Syro-Egyptian'. *Athenaeum*. 19 March 1859.
Symonds, John Addington. 'A Thousand Miles up the Nile'. *Academy*, 27 January 1877, 65.
'The British School of Archaeology in Egypt (from a Correspondent)'. *The Times*, 14 June 1905.
'The Campaign in Egypt Has Made Great and Unexpected Progress'. *Illustrated London News*. 2 September 1882.
'The Egypt Exploration Fund'. *Academy*, 17 July 1883, 15.
'The General Meeting of the Egypt Exploration Fund…'. *Illustrated London News*. 7 November 1885.
'The Maspero Fund'. *Academy*, 29 March 1884, 230.
'The Protection of the Monuments in Cairo'. *The Times*, 30 July 1883.
'The Mummy'. *Nature* 49 (30 November 1893): 97–98.

'The Raw Material Wanted'. *Punch*, 18 December 1869.
'The Steam-Ship Egypt'. *Illustrated London News*. 18 November 1871.
'The Supporters of the Egypt Exploration Fund…'. *Illustrated London News*, 20 April 1889,
'The Temple of Onias (From a Correspondent)'. *The Times*. 14 March 1906.
'The War in Egypt: Surrender!' *Illustrated London News,* 16 September 1882.
Wilberforce, Samuel. 'Essays and Reviews'. *Quarterly Review* 109, no. 217 (January 1861): 248–305.
Winslow, William Copley. 'The Excavation of Zoan'. *John Bull*, 29 December 1881, 841.
'Women's Suffrage'. *Woman's Herald*, 7 March 1891, 311.

Primary Printed Sources

Annual Report of the Board of Regents of the Smithsonian Institution to the End of June 1889. Washington: Government Printing Office, 1890.
Baedeker, Karl, ed. *Egypt: Handbook for Travellers*. Vol. 1: Lower Egypt, with the Fayum and the Peninsula of Sinai. Leipsic: Karl Baedeker, 1878.
Bezold, Carl, and E.A. Wallis Budge. *The Tell El-Amarna Tablets in the British Museum*. Edited by Edward Maunde Thompson. London: Printed by Order of the Trustees, 1892.
Barker, Felix. *Archaeology Old World B.C.* Prepared with the Cooperation of Science Service. Garden City, N.Y.: Nelson Doubleday, Inc., 1961.
Birch, Samuel. *Facsimile of an Egyptian Hieratic Papyrus of the Reign of Ramses III, Now in the British Museum*. London, England: Printed by Order of the Trustees, 1876.
Bonomi, Joseph. *Egypt, Nubia, and Ethiopia*. London: Smith, Elder and Co., 1862.
Boule, Marcellin. *L'Anthropologie* 15 (1904): 381–82.
Brugsch-Bey, Émile. 'On et Onion'. *Recueil de Travaux Relatifs à La Philologie et à l'archéologie Égyptienne et Assyrienne* 8 (1886): 1–9.
Budge, Ernest Alfred Wallis. *By Nile and Tigris: A Narrative of Journeys in Egypt and Mesopotamia on Behalf of the British Museum between the Years 1886 and 1913*. Vol. 1. London: John Murray, 1920.
Bunsen, Baroness Frances Waddington. *A Memoir of Baron Bunsen*. Vol. 1. 2 vols. London: Longmans, Green, and Co., 1868.
Bunsen, Christian C.J. *Aegyptens Stelle in Der Weltgeschichte: Geschichtliche Untersuchung in Fünf Büchern*. Vol. 3. 5 vols. Hamburg: F. Perthes, 1845.
———. *Egypt's Place in Universal History*. Translated by Charles H. Cottrell. Vol. 3. 5 vols. London: Longmans, Green & Co., 1859.
———. 'On the Results of the Recent Egyptian Researches in Reference to Asiatic and African Ethnology, and the Classification of Languages'. In *Report of the Seventeenth Meeting of the British Association for the Advancement of Science*, 254–300. London: John Murray, 1848.
Ceram, C. W. *Gods, Graves, and Scholars : The Story of Archaeology*. London: Victor Gollancz Ltd., 1952.
Chester, Greville John. *Catalogue of the Egyptian Antiquities in the Ashmolean Museum, Oxford*. Oxford: Parker and Co., 1881.
———. 'A Journey to Biblical Sites in Lower Egypt, Etc.' *Palestine Exploration Quarterly* 12, no. 3 (1880): 133–58.
Cook, Thomas. *Cook's Tourists' Handbook for Egypt, the Nile, and the Desert*. London: Thomas Cook & Son, 1876.
Crawfurd, John. 'On the Antiquity of Man from the Evidence of Language'. *Transactions of the Ethnological Society of London* 2 (1863): 170–81.
Darwin, Charles. *Geological Observations on South America*. London: Smith, Elder and Co., 1846.
De la Beche, Henry. *The Geological Observer*. Philadelphia: Blanchard and Lea, 1851.
———. *How to Observe: Geology*. London: Charles Knight, 1835.

Donaldson, Thomas Leverton. *Questions upon Various Subjects Connected with Architecture, Suggested for the Direction of Correspondents and Travellers and for the Purpose of Eliciting Uniformity of Observation and Intelligence in Their Communication to the Institute*. London: Institute of British Architects, 1835.
Droop, J.P. *Archaeological Excavation*. Cambridge: Cambridge University Press, 1915.
Eaton, Frederick Alexis, ed. *A Handbook for Travellers in Egypt*. 5th edition, revd. On the spot. London: John Murray, 1875.
Edwards, Amelia. *Pharaohs, Fellahs, and Explorers*. New York: Harper & Brothers, 1891.
———. *A Thousand Miles up the Nile*. London: Longmans, Green & Co., 1877.
'Egypt and the Cholera'. *The British Medical Journal* 2, no. 1182 (25 August 1882): 391–93.
Fitzroy, Robert, and Henry Raper. 'Hints to Travellers'. *Journal of the Royal Geographical Society of London* 24 (1854): 328–58.
[Forbes, James D]. 'Lyell on the Antiquity of Man'. *Edinburgh Review* 118 (1863): 254–302.
Galton, Francis, ed. *Hints to Travellers*. 4th edition. London: Royal Geographical Society, 1878.
Girard, Pierre-Simon. 'Observations sur la vallée d'Égypte et sur l'exhaussement séculaire du sol qui la recouvre'. In *Mémoires de l'Académie Royale Des Sciences de l'Institute de France, Année 1817*, Tome II:185–304. Paris: Firmin Didot, 1819.
Griffith, Francis Llewellyn. *The Study of Egyptology: Inaugural Lecture Delivered in the Ashmolean Museum on May 8, 1901*. Oxford: Horace Hart, 1901.
Haddon, Alfred Cort. *History of Anthropology*. New York and London: G.P.Putnam's Sons, 1910.
Haliburton, James. *Excerpta Hieroglyphica*. Cairo: Privately printed, 1825.
Hamilton, William John. 'The Anniversary Address of the President'. *The Quarterly Journal of the Geological Society of London* 21 (1865): xxx–xl.
Hay, Robert. *Illustrations of Cairo*. London: Tilt and Bogue, 1840.
Hekekyan Bey, Joseph. *A Treatise on the Chronology of Siriadic Monuments*. London: Taylor and Francis, 1863.
Herschel, John F.W. *A Preliminary Discourse on the Study of Natural History*. London: Longmans, Rees, Orme, Brown, and Green, 1831.
Hogarth, David G. *Accidents of an Antiquary's Life*. London: Macmillan and Co., Ltd., 1910.
Horner, Leonard. 'An Account of Some Recent Researches Near Cairo...Part I'. *Philosophical Transactions of the Royal Society of London* 145 (1855): 105–38.
———. 'An Account of Some Recent Researches Near Cairo...Part II'. *Philosophical Transactions of the Royal Society of London* 148 (1858): 53–92.
———. 'The Anniversary Address of the President'. *Quarterly Journal of the Geological Society of London* 3 (1847): xxii–xc.
———. *Memoir of Leonard Horner*. Edited by Katharine M. Lyell. Vol. 2. 2 vols. London, 1890.
———. 'Observations on the Discovery, by Professor Lepsius...' *Edinburgh New Philosophical Journal* 49 (1850): 126–44.
———. 'Observations on the Discovery, by Professor Lepsius, of Sculptured Marks on Rocks in the Nile Valley in Nubia'. *Quarterly Journal of the Geological Society* 6 (1850): 384–85.
———. 'On the Geology of the Environs of Bonn'. *Transactions of the Geological Society of London*, 2nd ser., 4 (1836): 433–81.
———. 'On the Quantity of Solid Matter Suspended in the Water of the Rhine'. *Edinburgh New Philosophical Journal* 18 (1835): 102–6.
[Hunt, James]. 'Lyell on the Geological Evidence of the Antiquity of Man'. *Anthropological Review* 1, no. 1 (1863): 129–37.
———. 'Notes on the Antiquity of Man'. *Anthropological Review* 1, no. 1 (1863): 60–106.
———. 'On the Study of Anthropology'. *Anthropological Review* 1, no. 1 (1863): 1–20.
Hutchinson, Horace. *Life of Sir John Lubbock*. Vol. 1. 2 vols. London: MacMillan and Co., 1914.
Jackson, Julian R. *What to Observe; or The Traveller's Rememberancer*. London: James Madden & Co., 1841.

Josephus, Flavius. *Josephus: Jewish Antiquities, Books XII-XIV*. Translated by Ralph Marcus. Vol. 7. 9 vols. London: William Heinemann Ltd., 1943.
———. *Josephus: The Jewish War, Books I-III*. Translated by H.S.J. Thackeray. Vol. 2. 9 vols. London: Heinemann Ltd., 1926.
———. *The Life. Against Apion*. Translated by Henry St. John Thackeray. Cambridge, MA: Harvard University Press, 1926.
Kingsley, Mary H. *Travels in West Africa*. London: Macmillan & Co. Ltd., 1897.
Legge, F. 'The Society of Biblical Archæology'. *Journal of the Royal Asiatic Society* 51, no. 1 (1919): 25–36.
Lepsius, Karl Richard. *Letters from Egypt, Ethiopia, and the Peninsula of Sinai*. Translated by Joanna B. Horner and Leonora Horner. London: H. G. Bohn, 1853.
Lewis, Thomas Hayter. 'A Description of the Royal Panopticon Institution, with Details of the Construction and Decoration'. *Transactions of the Royal Institute of British Architects* 3 (1853): 1–8.
———.*The Fine Arts and Their Connection with Education: Being the Inaugural Lecture Delivered at University College, London, on 9th October, 1865*. London: Walton and Maberly, 1865.
———. 'Notes on Ancient and Modern Egypt'. In *Sessional Papers Read at the Royal Institute of British Architects, 1875-76*, 31–44. London: Published at the rooms of the Institute, 1876.
———. 'Notes on Tell-El-Yahoudeh'. In *Proceedings of the Society of Biblical Archaeology, November 1881 to June 1882*, 4:89–90. London: The Society of Biblical Archaeology, 1882.
———. 'Tel-El-Yahoudeh (the Mound of the Jew)'. In *Transactions of The Society of Biblical Archaeology*, 7:177–92. London, 1882.
Lewis, Thomas Hayter, and George Edmund Street. 'Egyptian Architecture'. In *Encyclopaedia Britannica*, 336–43. American Reprint. Philadelphia: M. Somerville, 1891.
Linant de Bellefonds, Louis Maurice Adolphe. *Mémoires Sur Les Principaux Travaux d'utilité Publique Exécutés En Egypte Depuis Les Temps de La plus Haute Antiquité Jusqu'à Nos Jours*. Paris, 1873.
Lubbock, John. *Pre-Historic Times: As Illustrated by Ancient Remains, and the Manners and Customs of Modern Savages*. London: Williams and Norgate, 1865.
Lyell, Katharine M. *Life, Letters and Journal Sir Charles Lyell*. Vol. 2. 2 vols. London: John Murray, 1881.
Lyell, Charles. *The Geological Evidence for the Antiquity of Man*. London: John Murrray, 1863.
———. *A Manual of Elementary Geology*. 5th edition. London: John Murray, 1855.
———. 'On the Delta and Alluvial Deposits of the Mississippi...' *American Journal of Science and Arts* 3, no. 7 (1847): 34–39.
———. 'On the Occurrence of Works of Human Art in Post-Pliocene Deposits'. In *Report of the Twenty-Ninth Meeting of the British Association for the Advancement of Science*, 93–95. London: John Murray, 1860.
———. *A Second Visit to the United States of North America*. Vol. 2. London: John Murray, 1849.
Macmillan, George A. 'A Short History of the British School at Athens, 1886-1911'. *Annual of the British School at Athens* 17 (1911 1910): ix–xxxviii.
Moritzen, Julius. *The Egypt of Yesterday: A History of Exploring and Excavation*. Pocket Series 469. Girard, Kansas: Jaldeman-Julius Company, 1923.
Murray, Margaret A. *The Osireion at Abydos*. Egypt Research Account 9. London: Bernard Quaritch, 1904.
Naville, Edouard. 'Les Fouilles Du Delta Pendant l'hiver de 1887'. *Recueil de Travaux Relatifs a !A Philologie Eta l'Archeologie Egyptiennes et Assyriennes* 10 (1888): 50–60.
Naville, Edouard, and Francis Llewellyn Griffith. *The City of Onias, The Antiquities of Tell El Yahûdiyeh, and the Mound of the Jew*. Egypt Exploration Fund Publications 7, 1890.
Niebuhr, Carsten. *Reisebeschreibung Nach Arabien Und Andern Umliegenden Ländern*. Vol. 1. Copenhagen, 1774.

———. *Travels through Arabia, and Other Countries in the East, Performed by M. Niebuhr, Now a Captain of Engineers in the Service of the King of Denmark*. Translated by Robert Heron. Vol. 1. 2 vols. Edinburgh: R. Morison and Son, 1792.
'Obituary: Dr. James Andrew Sandilands Grant Bey, LL.D'. *British Medical Journal*, 15 August 1896.
'Obituary Notices of Fellows Deceased'. *Proceedings of the Royal Society of London* 14 (1865): v–x.
'Ordinary Meeting, 7th July 1863'. *Transactions of the Anthropological Society of London* 1, no. 2 (1863): xxvi.
Petrie, Hilda. 'The Egyptian Research Students' Association'. Edited by W M Flinders Petrie. *Ancient Egypt* 2 (1914): 94.
———. 'The Egyptian Research Students' Association'. Edited by W M Flinders Petrie. *Ancient Egypt* 1 (1914): 47.
Petrie, W. M. Flinders. 'Archaeological Evidence'. In *Lectures on the Method of Science*, edited by T.B. Strong, 218–30. Oxford: Clarendon Press, 1906.
———. 'Archaeology'. In *The Progress of the Century*, edited by Alfred Russel Wallace, 73–102. New York and London: Harper & Brothers, 1901.
———. Petrie, W.M.Flinders. 'Archaeology in the Past Century'. *Scientific American*, no. 1308 (26 January 1901): 20960–61.
———. *A History of Egypt. Volume 1: From the Earliest Times to the XVIth Dynasty*. Vol. 1. 3 vols.
———. *Hyksos and Israelite Cities*. London: Office of School of Archaeology, University College, 1906.
———. *Methods & Aims in Archaeology*. London, England: Macmillan & Co. Ltd., 1904.
———. 'Sequences in Prehistoric Remains'. *Journal of the Anthropological Institute of Great Britain and Ireland* 29 (1899): 295–301.
———. *Seventy Years in Archaeology*. London, England: Sampson Low, Marston & Co., Ltd., 1931.
———. *The Story of a 'Tel': A Lecture Delivered for the Palestine Exploration Fund*. London: Watt, for the Palestine Exploration Fund, 1892.
———. *Tell El Amarna*. London, England: Methuen & Co., 1894. London, England: Methuen & Co., 1894.
———. *Ten Years Digging in Egypt, 1881-1891*. Second revised edition. London, England: The Religious Tract Society, 1893.
Petrie, W. M. Flinders, and Rev. J. Garrow Duncan. 'Catalogue of Egyptian Antiquities, Found in the Hyksos Camp, The City of Raamses, The Cemetary of Goshen, The Town and Temple of Onias, and Other Sites', 1906. Petrie Museum of Egyptian Archaeology.
Pitt Rivers, Lt-Gen. A.H.L.F. 'A Description of Certain Piles Found Near London Wall and Southwark, Possibly the Remains of Pile Buildings'. *Anthropological Review* 5 (1867): lxxi–lxxxiii.
———. 'Excavations at Caesar's Camp, Near Folkestone, Conducted in 1878'. *Archaeologica* 47 (1883): 429–65.
———. *Excavations in Cranborne Chase near Rushmore on the Borders of Dorset and Wiltshire*. Vol. 1. Rushmore: Printed privately, 1887.
———. 'On the Discovery of Chert Implements in Stratified Gravel in the Nile Valley near Thebes'. *Journal of the Anthropological Institute of Great Britain and Ireland* 11 (1882): 382–400.
Pococke, Richard. *A Description of the East and Some Other Countries. Vol 1: Observations on Egypt*. London: Printed for the author by W. Bowyer, 1743.
Poole, Reginald Stuart. 'Chronology'. In *A Dictionary of the Bible*, edited by William Smith, 1:311–28. London: John Murray, 1863.
———. 'Editor's Preface'. In *The Genesis of the Earth and of Man*, by [Edward William Lane], v–xxii. edited by Reginald Stuart Poole, 2nd ed. London: Williams and Norgate, 1860.
———. 'Egypt'. In *A Dictionary of the Bible*, edited by William Smith, 1:494–512. London: John Murray, 1863.

———. 'Egypt, Ethiopia, and the Peninsula of Sinai'. *Journal of Sacred Literature and Biblical Record* 6, no. 12 (July 1854): 314–30.
———. 'The Egyptian Tomb and the Future State'. In *Lectures on Art: Delivered in Support of the Society for the Protection of Ancient Buildings*, 1–25. London: Macmillan and Co., 1882.
———. 'The Ethnology of Egypt'. *Transactions of the Ethnological Society of London* 2 (1863): 260–64.
———. *Horae Aegyptiacae, or the Chronology of Ancient Egypt*. London: John Murray, 1851.
———. 'On the Increase of the Nile-Deposit'. In *An Account of the Manners and Customs of the Modern Egyptians*, by Edward William Lane, 593–98, 5th edition. London: John Murray, 1860.
Prichard, James Cowles. 'Note on the Biblical Chronology'. In *Researches into the Physical Unity of Mankind*, 3rd ed., 5:552–70. London: Sherwood, Gilbert, and Piper, 1847.
Reinach, Salomon. 'Methods and Aims of Archaeology'. *Revue Archéologuque* 3 (1904): 158–59.
Roberts, David. *Egypt and Nubia*. 3 vols. London, 1846.
———. *The Holy Land, Syria, Egypt and Nubia*. Vol. 3. London: Day & Son, 1842.
Sayce, Archibald Henry. 'The Cuneiform Tablets'. In *Tell El-Amarna*, by W. M. Flinders Petrie, 34–36. London: Methuen & Co., 1894.
Schaefer, Heinrich. *The Songs of an Egyptian Peasant, Collected and Translated into German by Heinrich Schaefer*. Translated by Frances Heart Breasted. Leipzig: J.C.Hinrichs, 1904.
Strong, T.B. *Lectures on the Method of Science*. Oxford: Clarendon Press, 1906.
Tavenor Perry, J. 'The Late Thomas Hayter Lewis, F.S.A.' *Journal of the Royal Institute of British Architects*, 14 January 1899, 126–30.
Venn, John, and J.A. Venn, eds. *Alumni Cantabrigienses: A Biographical List of All Known Students....at the University of Cambridge, from the Earliest Times to 1900*. Vol. 2, part 3. Cambridge: Cambridge University Press, 1947.
Wallace, Mackenzie. *Egypt and the Egypt Question*. London: Macmillan and Co., 1883.
Wilbour, Charles E. *Travels in Egypt (December 1880 to May 1891): Letter of Charles Edwin Wilbour*. Edited by Jean Capart. Brooklyn: Brooklyn Museum, 1936.
Wilkinson, Sir Gardner. *Handbook for Travellers in Egypt*. London: John Murray, 1847.
Williams, Dr. Rowland. 'Bunsen's Biblical Researches'. In *Essays and Reviews*, edited by John William Parker, 50–93. London: John W. Parker and Son, 1860.
Wilson, Daniel. *Prehistoric Man: Researches into the Origin of Civilisation in the Old and the New World*. Cambridge: Macmillan & Co., 1862.
Winslow, William Copley. 'Petrie's Work in the Delta'. *American Antiquarian and Oriental Journal* 28, no. 5 (October 1906): 304.

Online Sources

'Ancient Lives Project', http://www.papyrology.ox.ac.uk/Ancient_Lives/. Accessed 12 December 2019.
Soueif, Ahdaf. 'On Resigning from the British Museum's Board of Trustees'. *LRB Blog* (blog), 15 July 2019. https://www.lrb.co.uk/blog/2019/july/on-resigning-from-the-british-museum-s-board-of-trustees.
Sheppard, Kathleen L. '"Constant Companions" and "Intimate Friends": The Lives and Careers of Maggie Benson and Nettie Gourlay'. *Lady Science*, 6 June 2019. https://www.ladyscience.com/constant-companions-and-intimate-friends/no57.
'Theban Necropolis Preservation Initiative,' http://www.factumfoundation.org/ind/46/the-theban-necropolis-preservation-initiative. Accessed 12 December 2019.

Secondary Print Sources

Abu El-Haj, Nadia. *Facts on the Ground: Archaeological Practice and Territorial Self-Fashioning in Israeli Society*. Chicago: University of Chicago Press, 2001.

Bailey, Donald M. 'Sebakh, Sherds and Survey'. *Journal of Egyptian Archaeology* 85 (1999): 211–18.

Bangham, Jenny, and Judith Kaplan, eds. *Invisibility and Labour in the Human Sciences*. Berlin: Max Planck Institute for the History of Science, 2016.

Beckingham, C.F. 'The Society of Biblical Archaeology, 1870-1919'. In *The Royal Asiatic Society: Its History and Treasures*, edited by Stuart Simmonds and Simon Digby, 155–58. Leiden and London: Published for the Royal Asiatic Society by E.J.Brill, 1979.

Beinin, Joel. 'Egyptian Textile Workers: From Craft Artisans Facing European Competition to Proletarians Contending with the State'. In *The Ashgate Companion to the History of Textile Workers, 1650-2000*, edited by Lex Heerma van Voss, Els Hiemstra-Kuperus, and Elise van Nederveen Meerkerk, 171–98. Routledge: London and New York, 2016.

Beinin, Joel, and Zachary Lockman. *Workers on the Nile: Nationalism, Communism, Islam, and the Egyptian Working Class, 1882-1954*. Princeton: Princeton University Press, 1988.

Bennett, Tony. *The Birth of the Museum: History, Theory, Politics*. London and New York: Routledge, 1995.

Bierbrier, Morris L. *Who Was Who in Egyptology*. 4th revised edition. London: The Egypt Exploration Society, 2012.

Bietak, Manfred. 'Tell El-Yahudiya'. In *Encyclopedia of the Archaeology of Ancient Egypt*, edited by Katherine A. Bard, 964–65. New York: Routledge, 1999.

Bowdoin Van Riper, A. *Men among the Mammoths: Victorian Science and the Discovery of Human Prehistory*. Chicago and London: University of Chicago Press, 1993.

Bowler, Peter J. *Science for All: The Popularization of Science in Early Twentieth-Century Britain*. Chicago: University of Chicago Press, 2009.

Brock, William H., and Roy M. MacLeod. 'The Scientists' Declaration: Reflexions on Science and Belief in the Wake of Essays and Reviews, 1864-5'. *British Journal for the History of Science* 9, no. 1 (1976): 39–66.

Brown, Colin M. 'Leonard Horner, 1785-1864: His Contribution to Education'. *Journal of Educational Administration and History* 17, no. 1 (1985): 1–10.

Brown, Nathan J. 'Who Abolished Corvee Labour in Egypt and Why?' *Past & Present* 144 (1994): 116–37.

Brusius, Mirjam. 'Hitting Two Birds with One Stone: An Afterword on Archaeology and the History of Science'. *History of Science* 55, no. 3 (2017): 383–91.

———. 'Towards a History of Preservation Practices: Archaeology, Heritage, and the History of Science'. *International Journal of Middle East Studies* 47, no. 3 (2015): 574–79.

Buchwald, Jed Z., and Diane Greco Josefowicz. *The Zodiac of Paris: How an Improbable Controversy over an Ancient Egyptian Artifact Provoked a Modern Debate between Religion and Science*. Princeton and Oxford: Princeton University Press, 2010.

Cantor, Geoffrey, Gowan Dawson, Graeme Gooday, Richard Noakes, Sally Shuttleworth, and Jonathan R. Topham. *Science in the Nineteenth-Century Periodical: Reading the Magazine of Nature*. Cambridge: Cambridge University Press, 2004.

Cantor, Geoffrey, Gowan Dawson, Louise Henson, Richard Noakes, Sally Shuttleworth, and Jonathan R. Topham, eds. *Culture and Science in the Nineteenth-Century Media*. Aldershot: Ashgate, 2004.

Cantor, Geoffrey, and Sally Shuttleworth, eds. *Science Serialized: Representations of the Sciences in Nineteenth-Century Periodicals*. Cambridge, Mass.: MIT Press, 2004.

Carruthers, William. 'Credibility, Civility, and the Archaeological Dig House in Mid-1950's Egypt'. *Journal of Social Archaeology* 19, no. 2 (2019): 255–76.

———. 'Visualizing a Monumental Past: Archaeology, Nasser's Egypt, and the Early Cold War'. *History of Science* 55, no. 3 (2017): 272–301.

Carruthers, William, and Stéphane Van Damme. 'Disassembling Archaeology, Reassembling the Modern World'. *History of Science* 55, no. 3 (2017): 255–72.
Christopher Evans. 'Soldiering Archaeology: Pitt Rivers and "Militarism"'. *Bulletin of the History of Archaeology* 24, no. 4 (2014): 1–20.
Clément, Anne. 'Rethinking "Peasant Consciousness" in Colonial Egypt: An Exploration of the Performance of Folksongs by Upper Egyptain Agricultural Workers on the Archaeological Excavations Sites of Karnak and Dendera at the Turn of the Twentieth Century (1885-1914)'. *History and Anthropology* 21, no. 2 (2010): 73–100.
Colla, Elliott. *Conflicted Antiquities: Egyptology, Egyptomania, Egyptian Modernity*. Durham, NC: Duke University Press, 2007.
Collins, Harry. *Tacit and Explicit Knowledge*. Chicago: University of Chicago Press, 2010.
Cool Root, Margaret. 'Introduction: Women of the Field, Defining the Gendered Experience'. In *Breaking Ground: Pioneering Women Archaeologists*, edited by Getzel M. Cohen and Martha Sharp Joukowsky, 1–33. Ann Arbor: University of Michigan Press, 2004.
Dawson, Warren R. 'Letters from Maspero to Amelia Edwards'. *The Journal of Egyptian Archaeology* 33 (1947): 66–89.
Desplat, Juliette. 'Digging for King and Country'. *National Archives Blog* (blog), 18 November 2014. https://blog.nationalarchives.gov.uk/digging-king-country/.
———. 'Spy or Scholar? Meet Dr Curt Prüfer'. *National Archives Blog* (blog), 24 September 2018. https://blog.nationalarchives.gov.uk/spy-or-scholar-meet-dr-curt-prufer/.
Díaz-Andreu García, Margarita. *A World History of Nineteenth-Century Archaeology: Nationalism, Colonialism, and the Past*. Oxford: Oxford University Press, 2007.
Díaz-Andreu, Margarita, and Marie Louise Stig Sørensen. 'Excavating Women: Towards and Engendered History of Archaeology'. In *Excavating Women: A History of Women in European Archaeology*, edited by Margarita Díaz-Andreu and Marie Louise Stig Sørensen. London and New York: Routledge, 1998.
Doyon, Wendy. 'Archaeology through the Eyes of Egyptians'. In *Unmasking Ideology in Imperial and Colonial Archaeology: Vocabulary, Symbols, and Legacy*, edited by Bonnie Effros and Guolong Lai, 173–200. Los Angeles: The Cotsen Institute of Archaeology Press, 2018.
———. 'On Archaeological Labor in Modern Egypt'. In *Histories of Egyptology: Interdisciplinary Measures*, edited by William Carruthers, 141–56. London and New York: Routledge, 2015.
Dritsas, Lawrence. 'Expeditionary Science: Conflicts of Method in Mid-Nineteenth-Century Geographical Discovery'. In *Geographies of Nineteenth-Century Science*, edited by David Livingstone and Charles W. J. Withers, 255–77. Chicago: University of Chicago Press, 2011.
Drower, Margaret S. *Flinders Petrie: A Life in Archaeology*. 2nd ed. Madison, Wisc.: University of Wisconsin Press, 1995.
———. 'Gaston Maspero and the Birth of the Egypt Exploration Fund (1881-3)'. *The Journal of Egyptian Archaeology* 68 (1982): 299–317.
———. 'Hilda Mary Isobel Petrie, Née Urlin, 1871-1956'. Breaking Ground: Women in Old World Archaeology Project, Brown University, 2004. http://www.brown.edu/Research/Breaking_Ground/bios/Petrie_Hilda.pdf.
———, ed. *Letters from the Desert : The Correspondence of Flinders and Hilda Petrie*. Warminster: Aris & Phillips, 2004.
Dykstra, Darrell. 'Joseph Hekekyan and the Egyptian School in Paris'. *Armenian Review* 35 (1982): 165–82.
El Shakry, Omnia S. *The Great Social Laboratory : Subjects of Knowledge in Colonial and Postcolonial Egypt*. Stanford: Stanford University Press, 2007.
Evans, Christopher. 'Model Excavations: "Performance" and Three-Dimensional Display of Knowledge'. In *Archives, Ancestors, Practices: Archaeology in the Light of Its History*, edited by S. Schlanger and J. Nordbladh, 147–61. Oxford: Berghahn Books, 2008.

———. 'Modelling Monuments and Excavations'. In *Models: The Third Dimension of Science*, edited by Soraya de Chadarevian and Nick Hopwood, 109–37. Stanford: Stanford University Press, 2004.
Foliard, Daniel. *Dislocating the Orient: British Maps and the Making of the Middle East, 1854-1921*. Chicago and London: University of Chicago Press, 2017.
Foucault, Michel. *Discipline and Punish: The Birth of the Prison*. Translated by Alan Sheridan. New York: Pantheon Books, 1977.
Frawley, Maria H. *A Wider Range: Travel Writing by Women in Victorian England*. London: Associated University Presses, 1994.
Fyfe, Aileen. *Science and Salvation: Evangelical Popular Science Publishing in Victorian Britain*. Chicago: University of Chicago Press, 2004.
Fyfe, Aileen, and Bernard Lightman, eds. *Science in the Marketplace : Nineteenth-Century Sites and Experiences*. Chicago: University of Chicago Press, 2007.
Gamble, Clive, and Robert Kruszynski. 'John Evans, Joseph Prestwich and the Stone That Shattered the Time Barrier'. *Antiquity* 83, no. 320 (2009): 461–75.
Gange, David. 'Beyond Disciplinary Histories of Egyptology'. In *Histories of Egyptology: Interdisciplinary Measures*, edited by William Carruthers, 64–78. London and New York: Routledge, 2015.
———. *Dialogues with the Dead: Egyptology in British Culture and Religion, 1822-1922*. Oxford: Oxford University Press, 2013.
———. 'Religion and Science in Late Nineteenth-Century British Egyptology'. *The Historical Journal* 49, no. 04 (2006): 1083–1103.
———. 'The Ruins of Preservation: Conserving Ancient Egypt 1880-1914'. *Past and Present* 226 (2015): 78–99.
Gillispie, Charles Coulston. 'Scientific Aspects of the French Egyptian Expedition 1798-1801'. *Proceedings of the American Philosophical Society* 133, no. 4 (1989): 447–74.
Godlewska A. 'Map, Text and Image. The Mentality of Enlightened Conquerors: A New Look at the Description de l'Egypte'. *Transactions of the Institute of British Geographers* 20, no. 1 (1995): 5–28.
Godlewska, Anne. 'Napolean's Geographers'. In *Geography and Empire*, edited by Anne Godlewska and Neil Smith, 31–54. Oxford: Blackwell, 1994.
Gold, Meira. 'Ancient Egypt and the Geological Antiquity of Man, 1847–1863'. *History of Science* 57, no. 2 (2019): 194–230.
Gregory, Derek. 'Imaginative Geographies'. *Progress in Human Geography* 19, no. 4 (1995): 447–85.
———. 'Scripting Egypt: Orientalism and the Cultures of Travel'. In *Writes of Passage: Reading Travel Writing*, edited by James S. Duncan and Derek Gregory, 114–50. London: Routledge, 1999.
Guha, Sudeshna. *Artefacts of History: Archaeology, Historiography and Indian Pasts*. New Delhi: SAGE publications, 2015.
———. 'Visual Histories, Archaeology, and Photographic Knowledge'. In *Depth of Field: Photography as Art and Practice in India*, edited by Rahaab Allana, 29–40. Lalit Kala Contemporary 52. New Delhi: Lalita Kala Akademi, 2012.
Guichard Jr., Roger H. *Niebuhr In Egypt: European Science in a Biblical World*. Cambridge: The Lutterworth Press, 2014.
Harley, J.B. *The New Nature of Maps: Essays in the History of Cartography*. Edited by Paul Laxton. Baltimore and London: The John Hopkins University Press, 2001.
Harper, Lila Marz. *Solitary Travelers: Nineteenth-Century Women's Travel Narratives and the Scientific Vocation*. London: Associated University Presses, 2001.
Heath, Julian. *Archaeology Hotspot Egypt : Unearthing the Past for Armchair Archaeologists*. Archaeology Hotspots. Lanham: Rowman & Littlefield, 2015.
Heringman, Noah. *Sciences of Antiquity: Romantic Antiquarianism, Natural History, and Knowledge Work*. Oxford: Oxford University Press, 2013.

Hevly, Bruce. 'The Heroic Science of Glacier Motion'. *Osiris* 11 (1996): 66–86.
Hill, Kate. *Women and Museums 1850-1914: Modernity and the Gendering of Knowledge*. Manchester: Manchester University Press, 2016.
Hunter, F. Robert. *Egypt under the Khedives, 1805-1879: From Household Government to Modern Bureaucracy*. Cairo: The American University in Cairo Press, 1999.
Irwin-Williams, Cynthia. 'Women in the Field: The Role of Women in Archaeology before 1960'. In *Women of Science: Righting the Record*, edited by Gabriele Kass-Simon, Patricia Farnes, and Deborah Nash, 1–41. Bloomington: Indiana University Press, 1993.
James, T.G.H., ed. *Excavating in Egypt: The Egypt Exploration Society, 1882-1982*. London: British Museum Press, 1982.
Janssen, Rosalind. *The First Hundred Years : Egyptology at University College London*. London: UCL, 1992.
Jeffreys, David G. 'Introduction: Two Hundred Years of Ancient Egypt: Modern Egypt and Ancient Archaeology'. In *Views of Ancient Egypt since Napoleon Bonaparte: Imperialism, Colonialism and Modern Appropriations*, edited by David G. Jeffreys, 1–18. Encounters with Ancient Egypt. London: UCL Press, 2003.
———. 'Joseph Hekekyan at Heliopolis'. In *Studies on Ancient Egypt in Honour of H.S.Smith*, edited by Anthony Leahy and William John Tait, 157–68. London: Egypt Exploration Society, 1999.
———. *The Survey of Memphis. 7, The Hekekyan Papers and Other Sources for the Survey of Memphis*. London: Egypt Exploration Society, 2010.
Kehoe, Alice B. *The Land of Prehistory: A Critical History of American Archaeology*. New York and London: Routledge, 1998.
Kennedy, Dane. 'British Exploration in the Nineteenth Century: A Historiographical Survey'. *History Compass* 5, no. 6 (2007): 1879–1900.
Kohler, Robert E. *Landscapes and Labscapes: Exploring the Lab-Field Border in Biology*. Chicago and London: University of Chicago Press, 2002.
Kohler, Robert E., and Jeremy Vetter. 'The Field'. In *A Companion to the History of Science*, edited by Bernard Lightman, 340–55. Chichester: Wiley-Blackwell, 2016.
Kuklick, Henrika. 'After Ishmael: The Fieldwork Tradition and Its Future'. In *Anthropological Locations: Boundaries and Grounds of a Field Science*, edited by Akhil Gupta and James Ferguson, 47–65. Berkeley: University of California Press, 1997.
———. 'Personal Equations: Reflections on the History of Fieldwork, with Special Reference to Sociocultural Anthropology'. *Isis* 102, no. 1 (2011): 1–33.
———. *The Savage within : The Social History of British Anthropology, 1885-1945*. Cambridge: Cambridge University Press, 1991.
Kuklick, Henrika, and Robert E. Kohler. 'Introduction: Science in the Field'. *Osiris* 11 (1996): 1–14.
Ledger-Lomas, Michael, and David Gange. 'Introduction'. In *Cities of God: The Bible and Archaeology in Nineteenth-Century Britain*, edited by David Gange and Michael Ledger-Lomas, 1–38. Cambridge: Cambridge University Press, 2013.
Lehner, Mark. *The Complete Pyramids*. London: Thames and Hudson, 1997.
Levine, Philippa. *The Amateur and the Professional: Antiquarians, Historians and Archaeologists in Victorian England, 1838-1886*. Cambridge: Cambridge University Press, 1986.
Lightman, Bernard. '*Knowledge* Confronts *Nature*: Richard Proctor and Popular Science Periodicals,' 199-211. In *Culture and Science in the Nineteenth-Century Media*, edited by Louise Henson et al. Aldershot: Ashgate, 2004.
———. 'Popularizers, Participation and the Transformation of Nineteenth-Century Publishing: From the 1860s to the 1880s'. *Notes and Records of the Royal Society* 70 (2016): 343–59.
———. *Victorian Popularizers of Science: Designing Nature for New Audiences*. Chicago: University of Chicago Press, 2007.

Livingstone, David N. *Adam's Ancestors: Race, Religion, and the Politics of Human Origins*. Baltimore: Johns Hopkins University Press, 2008.
———. *Putting Science in Its Place : Geographies of Scientific Knowledge*. Chicago: University of Chicago Press, 2003.
Livingstone, David N., and Charles W. J. Withers. 'Thinking Geographically about Nineteenth-Century Science'. In *Geographies of Nineteenth-Century Science*, 1–19. Chicago and London: University of Chicago Press, 2011.
Lucas, Gavin. *Critical Approaches to Fieldwork: Contemporary and Historical Archaeological Practice*. London: Routledge, 2001.
———. *The Archaeology of Time*. London and New York: Routledge, 2005.
Marchand, Suzanne. 'Herodotus and the Fate of Universal History in the Nineteenth-Century Germany'. Unpublished manuscript, 2019.
Martin, Bernice. 'Leonard Horner: A Portrait of an Inspector of Factories'. *International Review of Social History* 14, no. 3 (1969): 412–43.
Melman, Billie. *Women's Orients: English Women and the Middle East, 1718-1918: Sexuality, Religion and Work*. Basingstoke: Macmillan, 1995.
Mickel, Allison. 'Essential Excavation Experts: Alienation and Agency in the History of Archaeological Labor'. *Archaeologies* 15, no. 2 (2019): 181–2015.
Mitchell, Timothy. *Colonising Egypt*. Berkeley: University of California Press, 1991.
———. *Rule of Experts: Egypt, Techno-Politics, Modernity*. Berkeley and London: University of California Press, 2002.
Moore, James R. 'Geologists and Interpreters of Genesis in the Nineteenth Century'. In *God and Nature: Historical Essays on the Encounter between Christianity and Science*, edited by David C. Lindberg and Ronald L. Numbers, 322–50. Berkeley: University of California Press, 1986.
Morgan, Colleen, and Daniel Eddisford. 'Dig Houses, Dwelling, and Knowledge Production in Archaeology'. *Journal of Contemporary Archaeology* 2, no. 1 (2015): 169–93.
Morrell, Jack. *John Phillips and the Business of Victorian Science*. Aldershot: Ashgate, 2005.
Morus, Iwan Rhys. 'Invisible Technicians, Instrument-Makers and Artisans'. In *A Companion to the History of Science*, edited by Bernard V. Lightman, 97–110. Chichester, West Sussex: Wiley Blackwell, 2016.
Moser, Stephanie. *Designing Antiquity: Owen Jones, Ancient Egypt and the Crystal Palace*. New Haven, Conn.: Yale University Press, 2012.
———. *Wondrous Curiosities: Ancient Egypt at the British Museum*. Chicago: University of Chicago Press, 2006.
Moshenska, Gabriel. 'Thomas "Mummy" Pettigrew and the Study of Egypt in Early Nineteenth-Century Britain'. In *Histories of Egyptology: Interdisciplinary Measures*, 201–14. London and New York: Routledge, 2015.
———. 'Unrolling Egyptian Mummies in Nineteenth-Century Britain'. *British Journal for the History of Science* 47, no. 3 (2014): 451–77.
Murray, Tim. 'Rethinking Antiquarianism'. *Bulletin of the History of Archaeology* 17, no. 2 (2007): 14–22.
Mustafa, Ahmed Abdel-Rahim. 'The Hekekyan Papers'. In *Political and Social Change in Modern Egypt: Historical Studies from the Ottoman Conquest to the United Arab Republic*, edited by Peter Malcolm Holt, 68–75. London: Oxford University Press, 1968.
Nye, Mary Jo. *From Chemical Philosophy to Theoretical Chemistry: Dynamics of Matter and Dynamics of Disciplines, 1800-1950*. Berkeley: University of California Press, 1993.
Ogilvie, Marilyn Bailey. 'Marital Collaborations: An Approach to Science'. In *Uneasy Careers and Intimate Lives: Women in Science 1789-1979*, edited by Pnina G Abir-Am and Dorinda Outram, 104–25. New Brunswick and London: Rutgers University Press, 1987.
Outram, Dorinda. 'New Spaces in Natural History'. In *The Cultures of Natural History*, edited by Nicholas Jardine, James A. Secord, and Emma Spary, 249–65. Cambridge: Cambridge University Press, 1996.

Owen, Roger. 'A Long Look at Nearly Two Centuries of Long Staple Cotton'. In *Agriculture in Egypt: From Pharaonic to Modern Times*, 347–66. Oxford: Oxford University Press for the British Academy, 1999.
———. *The Middle East in the World Economy 1800-1914*. London: Methuen, 1981.
Peterson, Linda H. *Becoming a Woman of Letters: Myths of Authorship and Facts of the Victorian Market*. Princeton: Princeton University Press, 2009.
Pratt, Mary Louise. *Imperial Eyes: Travel Writing and Transculturation*. Second edition. New York and London: Routledge, 2008.
Prochaska, Frank K. *Women and Philanthropy in Nineteenth-Century England*. Oxford: Clarendon Press Oxford, 1980.
Pycior, Helena M., Nancy G. Slack, and Pnina G. Abir-Am. 'Introduction'. In *Creative Couples in the Sciences*, edited by Helena M. Pycior, Nancy G. Slack, and Pnina G. Abir-Am. New Jersey: Rutgers University Press, 1996.
Quirke, Stephen. *Hidden Hands: Egyptian Workforces in Petrie Excavation Archives, 1880–1924,*. Duckworth Egyptology Series. London: Duckworth, 2010.
———. 'Interwoven Destinies: Egyptians and English in the Labour of Archaeology, 1880-2007'. In *British-Egyptian Relations from Suez to the Present Day*, edited by Noel Brehony and Ayman El-Desouky, 247–73. SOAS Middle East Issues. London: Saqi, 2007.
Qureshi, Sadiah. 'Dramas of Development: Exhibitions and Evolution in Victorian Britain'. In *Evolution and Victorian Culture*, edited by Bernard Lightman and Bennett Zon, 261–85. Cambridge: Cambridge University Press, 2014.
Raj, Kapil. 'Beyond Postcolonialism….and Postpositivism: Circulation and the Global History of Science'. *Isis* 104, no. 2 (2013): 337–47.
———. 'Go-betweens, Travelers, and Cultural Translators'. In *A Companion to the History of Science*, edited by Bernard Lightman, 39-57. Chichester, UK: Wiley Blackwell, 2016.
———. *Relocating Modern Science: Circulation and the Construction of Knowledge in South Asia and Europe, 1650-1900*. New York: Palgrave Macmillan, 2007.
Rankin, Jeremiah, and Ruth Barton. 'Tyndall, Lewes and the Popular Representations of Scientific Authority in Victorian Britain'. In *The Age of Scientific Naturalism*, edited by Bernard Lightman and Michael S. Reidy, 51–70. London: Pickering & Chatto, 2014.
Reid, Donald M. *Contesting Antiquity in Egypt: Archaeologies, Museums, and the Struggle for Identities from World War I o Nasser*. Cairo: AUC Press, 2015.
———. 'Indigenous Egyptology: The Decolonization of a Profession?' *Journal of the American Oriental Society* 105, no. 2 (1985): 233–46.
———. *Whose Pharaohs? Archaeology, Museums, and Egyptian National Identity from Napoleon to World War I*. Berkeley: University of California Press, 2002.
Reyman, Jonathan E. 'Women in American Archaeology'. In *Rediscovering Our Past: Essays on the History of American Archaeology*, edited by Jonathan E. Reyman, 69–80. Avebury: Aldershot, 1992.
Richards, Keith. 'The Field'. In *The SAGE Handbook of Geographical Knowledge*, edited by John A. Agnew and David N. Livingstone, 53–63. London: Sage Publications Ltd., 2011.
Riggs, Christina. 'Discussing Knowledge in the Making'. In *Histories of Egyptology: Interdisciplinary Measures*, edited by William Carruthers, 129–38. New York and London: Routledge, 2015.
———. *Photographing Tutankhamun: Archaeology, Ancient Egypt, and the Archive*. London: Bloomsbury Visual Arts, 2019.
———. 'Shouldering the Past: Photography, Archaeology, and Collective Effort at the Tomb of Tutankhamun'. *History of Science* 55, no. 3 (2016): 336–63.
———. *Unwrapping Ancient Egypt*. London: Bloomsbury Academic, 2014.
Risbjerg Eskildsen, Kasper. 'The Language of Objects: Christian Jürgensen Thomsen's Science of the Past'. *Isis* 103, no. 1 (2012): 24–53.
Rogerson, John. *Old Testament Criticism in the Nineteenth Century: England and Germany*. London: SPCK, 1984.

Rowley-Conwy, Peter. *From Genesis to Prehistory: The Archaeological Three Age System and Its Contested Reception in Denmark, Britain, and Ireland*. Oxford: Oxford University Press, 2007.
Rudwick, Martin J. S. *Bursting the Limits of Time: The Reconstruction of Geohistory in the Age of Revolution*. Chicago: University of Chicago Press, 2005.
———. *Worlds before Adam: The Reconstruction of Geohistory in the Age of Reform*. Chicago: University of Chicago Press, 2008.
Said, Edward W. *Culture and Imperialism*. New York: Vintage Books, 1993.
———. *Orientalism*. New York: Vintage Books, 1979.
Schaffer, Simon. 'Metrology, Metrication, and Victorian Values'. In *Victorian Science in Context*, edited by Bernard Lightman, 438–74. Chicago: University of Chicago Press, 1997.
———. 'Oriental Metrology and the Politics of Antiquity in Nineteenth-Century Survey Sciences'. *Science in Context* 30, no. 2 (2017): 173–212.
———. 'Scientific Discoveries and the End of Natural Philosophy'. *Social Studies of Science* 16 (1986): 387–420.
Schaffer, Simon, Lissa Roberts, Kapil Raj, and James Delbourgo, eds. 'Introduction'. In *The Brokered World: Go-Betweens and Global Intelligence, 1770-1820*, ix–xxxviii. Sagamore Beach, MA: Science History Publications, USA, 2009.
Schlanger, Nathan. 'Series in Progress: Antiquities of Nature, Numismatics and Stone Implements in the Emergence of Prehistoric Archaeology'. *History of Science* 48, no. 3/4 (2010): 343–69.
Schnapp, Alain. 'Between Antiquarians and Archaeologists—Continuities and Ruptures'. *Antiquity* 76 (2002).
———. *The Discovery of the Past: The Origins of Archaeology*. London: British Museum Press, 1999.
Secord, James A. *Controversy in Victorian Geology: The Cambrian-Silurian Dispute*. Princeton, N.J.: Princeton University Press, 1986.
———. 'The Geological Survey of Great Britain as a Research School, 1839-1855'. *History of Science* 24, no. 65 (1986): 223–76.
———. 'Knowledge in Transit'. *Isis* 95, no. 4 (2004): 654–72.
———. *Victorian Sensation: The Extraordinary Publication, Reception, and Secret Authorship of Vestiges of the Natural History of Creation*. Chicago: University of Chicago Press, 2000.
Sedra, Paul. *From Mission to Modernity: Evangelicals, Reformers and Education in Nineteenth Century Egypt*. New York: Palgrave Macmillan, 2011.
Sera-Shriar, Efram. 'Human History and Deep Time in Nineteenth-Century British Sciences: An Introduction'. *Studies in History and Philosophy of Biological and Biomedical Sciences* 51 (2015): 19–22.
———. 'Introduction: From the Beginning'. In *Historicizing Humans: Deep Time, Evolution, and Race in Nineteenth Century British Sciences*, edited by Efram Sera-Shriar, 1–13. Pittsburgh: University of Pittsburgh Press, 2018.
———. *The Making of British Anthropology, 1813-1871*. London: Pickering & Chatto, 2013.
———. 'The Scandalous Affair of the Anthropological Review: Hyde Clarke, James Hunt and British Anthropology in the 1860s'. In *Victorian Culture and the Origin of Disciplines*, edited by Bernard Lightman and Bennett Zon, 135–57. Cambridge: Cambridge University Press, 2020.
———. 'What Is Armchair Anthropology? Observational Practices in 19th-Century British Human Sciences'. *History of the Human Sciences* 27, no. 2 (2014): 26–40.
Shapin, Steven. 'The Invisible Technician'. *American Scientist* 77, no. 6 (1989): 554–63.
———. 'Placing the View from Nowhere: Historical and Sociological Problems in the Location of Science'. *Transactions of the Institute of British Geographers* 23, no. 1 (1998): 5–12.
———. *A Social History of Truth: Civility and Science in Seventeenth-Century England*. Chicago and London: University of Chicago Press, 1994.
Shapin, Steven, and Simon Schaffer. *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life*. Princeton, N.J.: Princeton University Press, 1985.

Sharpe, Emily. 'Armchair Archaeologists Reveal Details of Life in Ancient Egypt'. *The Art Newspaper*, 29 February 2016. http://theartnewspaper.com/news/armchair-archaeologists-reveal-details-of-life-in-ancient-egypt/.
Shattock, Joanne. 'Introduction'. In *Journalism and the Periodical Press in Nineteenth-Century Britain*, edited by Joanne Shattock, 1–13. Cambridge: Cambridge University Press, 2017.
Shepherd, Nick. '"When the Hand That Holds the Trowel Is Black...": Disciplinary Practices in Self-Representation and the Issue of "native" Labour in Archaeology'. *Journal of Social Archaeology* 3, no. 3 (2003): 334–52.
Sheppard, Kathleen L. 'Between Spectacle and Science: Margaret Murray and the Tomb of the Two Brothers'. *Science in Context* 25, no. 4 (2012): 525–49.
———. *The Life of Margaret Alice Murray: A Woman's Work in Archaeology*. Lanham: Lexington Books, 2013.
———. 'Margaret Alice Murray and Archaeological Training in the Classroom: Preparing "Petrie's Pups"'. In *Histories of Egyptology: Interdisciplinary Measures*, 113–28. London and New York: Routledge, 2015.
Shuttleworth, Sally, and Berris Charnley. 'Science Periodicals in the Nineteenth and Twenty-First Centuries'. *Notes and Records of the Royal Society* 70 (2016): 297–304.
Silberman, Neil Asher. *Digging for God and Country: Exploration, Archaeology, and the Secret Struggle for the Holy Land, 1799-197*. New York: Alfred A. Knopf, 1982.
———. 'Promised Lands and Chosen People: The Politics and Poetics of Archaeological Narrative'. In *Nationalism, Politics, and the Practice of Archaeology*, edited by Philip L. Kohl and Clare Fawcett, 249–62. Cambridge: Cambridge University Press, 1995.
Sparks, Rachael. 'Publicising Petrie: Financing Fieldwork in British Mandate Palestine (1926–1938)'. *Present Pasts* 5 (1), no. 2 (2013): 1–15.
Spencer, Patricia. *The Egypt Exploration Society : The Early Years*. London: Egypt Exploration Society, 2007.
Stevenson, Alice. 'Artefacts of Excavation: The British Collection and Distribution of Egyptian Finds to Museums, 1880-1915'. *Journal of the History of Collections* 26, no. 1 (2014): 89–102.
———. *Scattered Finds: Archaeology, Egyptology and Museums*. London: UCL Press, 2019.
———. '"We Seem to Be Working in the Same Line": A.H.L.F. Pitt-Rivers and W.M.F. Petrie'. *Bulletin of the History of Archaeology* 22, no. 1 (2012): 4–13.
Stevenson, Alice, Emma Libonati, and John Baines. 'Object Habits: Legacies of Fieldwork and the Museum'. *Museum History Journal* 10, no. 2 (2017): 113–26.
Stevenson, Alice, Emma Libonati, and Alice Williams. '"A Selection of Minor Antiquities": A Multi-Sited View on Collections from Excavations in Egypt'. *World Archaeology* 48, no. 2 (2016): 282–95.
Stocking, George W., Jr. 'The Ethnographer's Magic: Fieldwork in British Anthropology from Tylor to Malinowski'. In *The Ethnographer's Magic and Other Essays in the History of Anthropology*, 12–59. Wisconsin: Wisconsin University Press, 1992.
———. 'From Chronology to Ethnology: James Cowles Prichard and British Anthropology 1800-1850'. In *Researches into the Physical History of Man*, by James Cowles Prichard, ix–cx. edited by George W. Stocking Jr. Chicago and London: University of Chicago Press, 1973.
———. *Victorian Anthropology*. London: Collier Macmillan publishers, 1987.
Stoler, Ann Laura. *Along the Archival Grain: Thinking through Colonial Ontologies*. Princeton: Princeton University Press, 2009.
Summers, Roger. 'Armchair Archaeology'. *The South African Archaeological Bulletin* 5, no. 19 (1950): 101–4.
Swenson, Astrid, and Peter Mandler, eds. *From Plunder to Preservation: Britain and the Heritage of Empire, c. 1800-1940*. Oxford: Published for the British Academy by Oxford University Press, 2013.

Tedlock, Barbara. 'From Participant Observation to the Observation of Participation: The Emergence of Narrative Ethnography'. *Journal of Anthropological Research* 47, no. 1 (1991): 69–94.
Thornton, Amara. *Archaeologists in Print: Publishing for the People*. London: UCL Press, 2018.
———. '"… a Certain Faculty for Extricating Cash": Collective Sponsorship in Late 19th and Early 20th Century British Archaeology'. *Present Pasts* 5 (1), no. 1 (2013): 1.
———. 'Exhibition Season: Annual Archaeological Exhibitions in London, 1880-1930s'. *Bulletin of the History of Archaeology* 25, no. 2 (2015): 1–18.
Tosh, John. 'Home and Away: The Flight from Domesticity in Late-Nineteenth Century England Re-Visited'. *Gender & History* 27, no. 3 (2015): 561–75.
———. 'Imperial Masculinity and the Flight from Domesticity in Britain 1880-1914'. In *Gender and Colonialism*, edited by Timothy P. Foley, 72–85. Galway: Galway University Press, 1995.
———. *A Man's Place: Masculinity and the Middle-Class Home in Victorian England*. New Haven, Conn.: Yale University Press, 1999.
Trigger, Bruce G. *A History of Archaeological Thought*. 2nd ed. New York: Cambridge University Press, 2006.
Vickery, Amanda. 'Golden Age to Separate Spheres? A Review of the Categories and Chronology of English Women's History'. *The Historical Journal* 36, no. 2 (1993): 383–414.
Willis, Martin. *Vision, Science and Literature, 1870-1920 : Ocular Horizons*. London: Pickering & Chatto, 2011.
Withers, Charles. 'Reporting, Mapping, Trusting: Making Geographical Knowledge in the Late Seventeenth Century'. *Isis* 90, no. 3 (1999): 497–521.
Wood, Denis, and John Fels. *The Natures of Maps: Cartographic Constructions of the Natural World*. Chicago: University of Chicago Press, 2008.
Ziter, Edward. *The Orient on the Victorian Stage*. Cambridge: Cambridge University Press, 2003.